RESTRICTED

REPORT
of

THE U.S. ARMY AIR FORCES BOARD

ORLANDO, FLORIDA

TESTS CONDUCTED BY

AAF TACTICAL CENTER

ORLANDO, FLORIDA

SUBJECT

DISSEMINATION OF D.D.T. FROM STANDARD BRITISH EQUIPMENT

PROJECT No 3735BH725

DATE 26 April 1945

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DISSEMINATION OF D.D.T. FROM STANDARD BRITISH EQUIPMENT

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THE ARMY AIR FORCES BOARD
Orlando, Florida JRVD/TJC/gb-F

26 April 1945

ARMY AIR FORCES BOARD PROJECT NO. 3735BH725

DISSEMINATION OF DDT FROM STANDARD BRITISH EQUIPMENT

I. OBJECT:

To determine the practicability of disseminating insecticide DDT from aircraft with the standard British 500 lb. S.C.I. (Smoke Curtain Installation) tank.

II. FACTUAL DATA:

a. The equipment tested under this project was the standard British 500 lb. S.C.I. (Smoke Curtain Installation) bomb bay spray tank. The capacity of this tank is 25 Imperial or approximately 30 U. S. Gallons. The tank body has an overall length of 66 inches and is 13 inches in diameter. The discharge pipe, which is located below the tank but forms a part thereof, is 2½ inches in diameter at the extreme outlet orifice and 3 inches in diameter at the point of junction with the tank. The air inlet pipe on top of the tank is 1 inch in diameter at the end and 2" in diameter at the point of junction with the tank.

The contents of the tank are discharged by breaking the glass closure plates installed in the air inlet and outlet pipes by detonators fired by electric circuit connected to a switch in the cockpit. The chemical filling flows from the tank by dynamic air pressure and gravity.

The empty tank weighs approximately 125 pounds. Filled with DDT solution in #2 Diesel oil it weighs approximately 350 pounds.

b. Standard U. S. M-10 airplane smoke tanks were also used in the tests for purpose of comparison and evaluation with relation to results in disseminating DDT with the M-10 A.P.S.T. in AAF Board Project No. F-3486, entitled "Test to Determine the Most Practical Means of Disseminating Insecticide DDT from Aircraft."

c. A-20G and A-26 aircraft were used in the tests. The British 500 lb. S.C.I. tank was modified for carrying on the wing racks of both types aircraft for the purpose of these tests.

d. Insecticide DDT.- Pure DDT is a white crystalline substance, correctly named 2,2 - bis (p - chlorophenyl) 1.1.1. - trichlorethane.

e. Dye.- Anthraquinone blue, AB base dye and DuPont oil red No. 5076 were used on this project.

f. Solvent for DDT.- No. 2 diesel fuel oil was used as the solvent for DDT in 5% solution. On all tests with 10% solution of DDT, 20% W/v of Barrett's Heavy Solvent was used as an auxiliary solvent (Test No. 7 - Third Event excepted).

g. For the purpose of these tests, and in the absence of appropriate British aircraft, for which the British 500 lb. S.C.I. was designed, subject tank was modified for carrying on the wing racks of A-20G and A-26 aircraft.

h. The tests under this project were conducted by AAF Tactical Center, Orlando, Florida, with the assistance of the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture, Orlando, Florida, and the Chemical Warfare Service, Dugway Proving Ground Mobile Unit, Bushnell, Florida. Tests under Events I and II were performed on Lake Hart near Orlando, Florida. All other tests were performed at the Chemical Warfare Demonstration Range, AFTAC, Orlando, Florida.

III. CONCLUSIONS: It is concluded that:

a. The British 500 lb. S.C.I. (Smoke Curtain Installation) tank is a satisfactory unit for disseminating insecticide DDT from aircraft.

b. The capacity of subject tank is 25 Imperial or 30 U. S. gallons.

c. The time of discharge, rate of flow and approximate length of spray pattern of a single British 500 lb. S.C.I. tank, filled with 25 Imperial or 30 U. S. gallons, of DDT solution in No. 2 Fuel Oil, discharged at an I.A.S. of 240 m.p.h. are as follows:

	British 500 lb. S. C. I.
Time of Discharge -	16 seconds
Rate of flow -	1.875 gallons/second
Approximate Length of Pattern -	1880 yards

d. The use of 10% solutions of DDT in subject tank gave far better results than five percent solutions. Five percent solutions of DDT are, however, more practical for use in the field in that no auxiliary solvents are required. Ten percent solutions of DDT require the use of auxiliary solvents which are, at the present time, not available in most theatres.

e. Based on the above tests, the optimum altitude of spraying with subject tank filled with 5% solutions of DDT in crosswinds of moderate velocities (2 to 11 m.p.h.) appears to be approximately 150 feet. With 10% solutions of DDT satisfactory results were obtained by spraying from 50 to 300 feet in crosswinds of moderate velocity.

f. The exact effective length of the pattern produced by a single British 500 lb. S.C.I. is not known on a basis of observed insect kill. Based on time of discharge and speed of aircraft, it is estimated to be approximately 1880 yards.

g. The average effective width of the pattern produced under optimum conditions by the British 500 lb. S.C.I. was approximately 200 yards. Based on this pattern width and the estimated length of 1880 yards, a single British 500 lb. S.C.I. should, at normal operating speeds of approximately 200 m.p.h., cover approximately 78 acres and effect a distribution of about 1.5 quarts per acre.

IV. RECOMMENDATIONS: It is recommended that:

a. For dissemination of 5% solutions of DDT with the British S.C.I., the contents be released at an approximate altitude of 150 feet in crosswinds of moderate velocities (2 to 12 m.p.h.) at normal operating speeds.

b. The distance between lines of flight for continuous treatment of an area by successive flights be not more than 200 yards and preferably about 175 yards.

V. DISCUSSION:

a. Methods of Testing.- (1) First Event.- This test was conducted by spraying parallel patterns on the surface of a lake from both the British S.C.I. and the U.S. M10 tanks for the purpose of obtaining a comparison of the patterns of spray from the two tanks. Spraying was done from an altitude of 25 feet at an I.A.S. of 240 m.p.h.

Although this procedure was repeated five times, no photographs were obtained that could be considered satisfactory for evaluation. For this reason, the pattern length was approximated from the time of discharge of the tank. The estimated length of the patterns of the tanks are as follows:

British S.C.I.	1800 yards
U. S. M10	600 yards

NOTE: At the time the above tests were being conducted, the mosquito population was inadequate to permit actual spray runs to determine

effective pattern length and facilities were not available to permit use of entomological sample stations over the entire length of the spray pattern.

(2) Second Event.- This test was conducted by spraying parallel patterns on the surface of a lake from both the British S.C.I. and U. S. 110 tanks. Spraying was done at an altitude of 200 feet at an I.A.S. of 240 m.p.h. No photographs were obtained that were satisfactory for the purpose of evaluation.

(3) Third Event.- This test was conducted using mosquito larvae and flies. A range was laid out with parallel lines of stations, the lines being 200 yards apart. All stations on each line were fifty yards apart. At each station on line A was placed a container of mosquito larvae to determine percentage of kill; a petrie dish to obtain a deposit for subsequent laboratory testing for data on fly kill; a microscopic slide coated with magnesium oxide to obtain data on droplet size; and a round white enameled plate to obtain data on density of spray. In addition to the above, at each station on line B was placed a cage containing live flies. (See Incl. 5 and Photographs Nos. 5, 6 and 7, Incl. 6).

Meteorological equipment was set up to determine temperature, wind velocity, wind direction and relative humidity. (See Photograph 5, Incl. 6). The flight path in all cases was cross-wind, approximately 90° to the two lines of stations. The DDT spray was carried by the wind and deposited in the area covered by the stations. The altitudes flown were 300 feet, 150 feet, and 50 feet.

These tests were conducted to determine the following:

(a) Effective pattern width.

(b) Percentage of fly kill.

(c) Percentage of mosquito larvae kill.

(d) Particle (droplet) size.

(e) Quantity of DDT per square meter.

Test No. 1.- This test was conducted at an altitude of three hundred (300) feet. The S.C.I. contained 5% DDT in #2 fuel oil. The most effective portion of the pattern varied from two hundred (200) yards in width at line A to two hundred fifty (250) yards at line B.

(a) Percentage of fly kill.

Line A - Stations on line A did not contain flies in cages. On this line, petrie dishes were contaminated by DDT spray,

and flies were placed in these dishes in the laboratory. 100% of flies exposed to dishes from stations #1 to 11 were killed in eight (8) to twenty five (25) minutes after exposure. (Station #3 excepted) (See Incl. 8).

Line B - Stations on line B contained both live flies in cages and petrie dishes. 100% of flies exposed to petrie dishes from stations #1 to 13 were killed in eleven (11) to sixty six (66) minutes after exposure. The percentage of flies in cages that were killed varied from 17% to 100%. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was highest at stations #1 to 7. The kill varied from 25% to 95% at these stations. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was best at stations #1 to 11. The kill varied from 30% to 100% at these stations. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from two hundred eighty-two (282) microns at stations #3 to six hundred fifty (650) microns at station #9. The size of practically all particles recorded varied from two hundred (200) to eight hundred (800) microns. (See Incl. 8).

Line B - Data on particle size is not available for this line of stations.

(d) Milligrams of DDT per square meter.

Line A - The number of milligrams of DDT per square meter varied from 1.1 mg to 4.2 mg. This was from stations #1 to 11 inclusive, with the heaviest deposit of DDT at stations #3. (See Incl.9).

Line B - The number of milligrams of DDT per square meter varied from 3.3 mg to 9.3 mg. This was from stations #1 to 11 inclusive, with the heaviest deposit at station #5. (See Incl. 9).

Test No. 2.- This test was conducted at an altitude of three hundred (300) feet. S.C.I. contained 5% DDT in No. 2 fuel oil. The most effective portion of the pattern was less than fifty (50) yards wide at Line A and fifty (50) yards wide at Line B.

(a) Percentage of fly kill.

Line A - Stations on line A did not contain flies in cages. On this line, petrie dishes were contaminated by DDT spray,

and flies were placed in these dishes in the laboratory. 100% of flies exposed to dishes from stations No. 1 to 3 were killed in 26 to 97 minutes. (See Incl. 8).

Line B - Stations on Line B contained both live flies in cages and petrie dishes. 100% of flies exposed to petrie dishes were not killed in less than 240 minutes, except at station No. 5 where 90% were killed in 122 minutes. The percentage of flies in cages that were killed was less than 45% at all stations (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was high at station No. 7 only. (90%). (See Incl. 8).

Line B - The percentage of mosquito larvae kill was high at stations No. 1 (100%) and No. 3 (90%). At all other stations, the kill was less than 66%. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from 242 microns at station No. 1 to 132 microns at station No. 9. The size of all particles recorded was below 400 microns. (See Incl. 8).

Line B - Particle size in microns varied from 220 microns to 110 microns. The size of all particles recorded was below 400 microns. (See Incl. 8).

(d) Milligrams of DDT per square meter.

Line A - The number of milligrams of DDT per square meter varied from 0.2 to 11.1 mg. This was from stations No. 1 to 15 inclusive, with the heaviest deposit at station No. 1. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter varied from 0.2 to 1.0 mg. This was from stations No. 1 to 15 inclusive, with the heaviest deposit at station #3. (See Incl. 9).

Test No. 3.- This test was conducted at an altitude of 300 feet. The S.C.I. contained 10% DDT in No. 2 fuel oil with 20% Barrett's Heavy Solvent added as an auxiliary solvent. The most effective portion of the pattern was between 150 and 250 yards wide at Line A and between 200 and 300 yards wide at Line B.

(a) Percentage of Fly Kill.

Line A - Stations on Line A did not contain flies in cages. On this line, petrie dishes were contaminated by DDT spray, and flies were placed in these dishes in the laboratory. 100% of flies exposed to dishes from stations No. 5 to 17 were killed in 26 to 123 minutes. (See Incl. 8).

Line B - Stations on Line B contained both live flies in cages and petrie dishes. 100% of flies exposed to dishes from stations #3 to 17 were killed in 12 to 50 minutes. The percentage of flies in cages that were killed varied from 93% to 98% at stations No. 5 to 17 with 85% kill at station No. 9. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was highest at stations #1 to 7. 100% kill recorded at stations 1 to 5 and 90% kill at No. 7. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was highest at stations No. 5 to 11. 90% to 100% kill recorded with 75% kill at No. 9. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from 154 microns at station No. 11 to 418 microns at station No. 13. All particles recorded were below 419 microns. (See Incl. 8).

Line B - Particle size in microns varied from 418 microns at station No. 11 to 528 microns at station No. 15. All particles recorded were below 800 microns. (See Incl. 8).

(d) Milligrams of DDT Per Square Meter.

Line A - The number of milligrams of DDT per square meter varied from 1.9 to 82.8 mg. This was from station No. 1 to 17 inclusive, with the heaviest deposit at station No. 17. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter varied from 0.7 mg to 9.9 mg. This was from station No. 1 to 17 inclusive with the heaviest deposit at station No. 11. (See Incl. 9).

Test No. 4.- This test was conducted at an altitude of 300 feet. The S.C.I. contained 10% DDT in #2 fuel oil with 20% Barrett's heavy solvent added as an auxiliary solvent. The most effective portion of the pattern was 350 yards wide at line A and between 150 and 300 yards wide at line B.

(a) Percentage of fly kill.

Line A - Stations on line A did not contain flies in cages. On this line, petrie dishes were contaminated by DDT spray, and flies were placed in these dishes in the laboratory. 100% of flies exposed to dishes from stations 1 to 17 were killed in 10 to 25 minutes. (See Incl. 8).

Line B - Stations on line B contained both live flies in cages and petrie dishes. 100% of flies exposed to dishes from stations No. 1 to 17 were killed in 12 to 31 minutes. The percentage of flies in cages that were killed was 100% from stations No. 5 to 17 inclusive. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was 100% at stations No. 5 to 17 inclusive with 90% kill at No. 3. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was 100% from station No. 11 to 17 inclusive with 85% kill at No. 5 and 7. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from 242 microns at station No. 15 to 330 microns at station No. 7 to 13. 100% of all droplets recorded were below 800 microns. (See Incl. 8).

Line B - Particle size in microns varied from 132 microns at stations No. 17 to 220 microns at station No. 7 and 15. 100% of all particles recorded were below 800 microns. (See Incl. 8).

(d) Milligrams of DDT per Square Meter.

Line A - The number of milligrams of DDT per square meter varied from 1.4 mg to 56.9 mg. This was from station No. 1 to 17 inclusive, with the heaviest deposit at station No. 15. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter varied from 4.4 mg to 38.1 mg. This was from station No. 1 to 17 inclusive, with the heaviest deposit at station No. 15. (See Incl. 9).

Test No. 5.- This test was conducted at an altitude of one hundred fifty (150) feet. S.C.I. contained 5% DDT in No. 2 fuel oil. The most effective portion of the pattern was two hundred fifty (250) yards wide on both lines A and B.

(a) Percentage of fly kill.

Line A - Stations on line A did not contain flies in cages. On this line, petrie dishes were contaminated by DDT spray, and flies were placed in these dishes in the laboratory. 100% of flies exposed to dishes from stations #3 to 11 were killed in fifteen (15) to fifty-one (51) minutes, with 100% kill at station #1 in one hundred forty-two (142) minutes. (See Incl. 8).

Line B - Stations on line B contained both live flies in cages and petrie dishes. 100% of flies exposed to petrie dishes from stations #3 to 9 were killed in seventeen (17) to twenty-five (25) minutes with kill in excess of 73% in two hundred forty (240) minutes at station #1. The percentages of flies in cages that were killed varied from 97% to 100% from stations #1 to 11 inclusive. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was highest at stations #1, 5, 9, and 11. The kill at these stations varied from 60% to 100%. At station #3 the kill was only 15% and at stations #7 the kill was only 25%. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was highest at stations #1 to 11. The kill varied from 70% to 100% at these stations. There was a 55% kill at station #13. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from two hundred sixty (260) microns at station #3 to four hundred twelve (412) microns at station #9. (See Incl. 8). The size of practically all particles recorded was below six hundred (600) microns. (See Incl. 8).

Line B - Particle size in microns varied from one hundred fifty-two (152) microns at station #1 to eight hundred sixty-eight (868) at station #7. The size of practically all particles recorded varied from two hundred (200) to eight hundred (800) microns. (See Incl. 8).

(d) Milligrams of DDT per Square Meter.

Line A - The number of milligrams of DDT per square meter varied from 0.3 mg to 8.3 mg. This was from stations #1 to 11 inclusive, with the heaviest deposit at station #9. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter varied from 4.7 mg. to 14.2 mg. This was from stations #1 to 13 inclusive, with the heaviest deposit at station #11. (See Incl. 9).

Test No. 6.- This test was conducted at an altitude of 150 feet. The S.C.I. contained 5% DDT in No. 2 fuel oil. The most effective portion of the pattern was between 200 and 250 yards wide at Line A and 300 yards wide at Line B for larvae but considerably less for flies in cages.

(a) Percentage of fly kill.

Line A - Stations on line A did not contain flies

in cages. On this line, petrie dishes were contaminated by DDT spray, and flies were placed in these dishes in the laboratory. 100% of flies exposed to dishes from stations No. 1 to 11 were killed in 14 to 47 minutes. (See Incl. 8).

Line B - Stations on line B contained both live flies in cages and petrie dishes. 100% of flies exposed to dishes from stations No. 1 to 11 were killed in 14 to 47 minutes. (See Incl.8).

Line B - Stations on line B contained both live flies in cages and petrie dishes. 100% of flies exposed to dishes from stations No. 1 to 11 were killed in 12 to 85 minutes, station No. 9 excepted. 100% of flies in cages were killed at station No. 1 only. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was 100% at stations No. 1 to 5 inclusive, and 90% kill at stations No. 9, 11, and 17.

Line B - The percentage of mosquito larvae kill was 100% at stations No. 1 to 13 inclusive. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from 132 microns at station No. 15 to 440 microns at station No. 1. All particles recorded were below 800 microns and most were below 600 microns. (See Incl. 8).

Line B - Particle size in microns varied from 110 microns at station No. 7 to 286 microns at station No. 3. All particles recorded were below 400 microns. (See Incl. 8).

(d) Milligrams of DDT per square meter.

Line A - The number of milligrams of DDT per square meter varied from 1.0 mg to 36.9 mg. This was from station No. 1 to 17 inclusive, with the heaviest deposit at station No. 3. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter varied from 0.3 mg to 43.1 mg. This was from station No. 1 to 17 inclusive, with the heaviest deposit at station No. 1 (See Incl. 9).

Test No. 7.- This test was conducted at an altitude of one hundred fifty (150) feet. The S.C.I. contained 10% DDT in No. 2 fuel oil. The most effective portion of the pattern was two hundred (200) yards wide at both lines A and B (See Incl. 8).

(a) Percentage of fly kill.

Line A - Stations on line A did not contain flies in cages. On this line, petrie dishes were contaminated by DDT spray, and flies were placed in these dishes in the laboratory. 100% of flies exposed to dishes from stations #1 to 11 were killed in nine (9) to one hundred thirteen (113) minutes. (See Incl. 8).

Line B - Stations on line B contained both live flies in cages and petrie dishes. 100% of flies exposed to dishes from stations #1 to 9 were killed in eight (8) to seventy-nine (79) minutes. The percentage of flies in cages that were killed was 100% at stations #1 to 7 inclusive, with 11% kill at station #9. (See Incl.8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was highest at stations #1 to 9. The kill at these stations varied from 75% to 100%. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was highest at stations #1 to 9. The kill at these stations varied from 95% to 100% with 35% kill at station #9. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from one hundred fifty-two microns at station #5 to four hundred thirty-four (434) microns at station #1. All particles recorded were below four hundred fifty (450) microns. (See Incl. 8).

Line B - Particle size in microns varied from one hundred fifty-two (152) microns at station #7 to six hundred fifty (650) microns at station #1. All particles recorded were below six hundred fifty-one (651) microns. (See Incl. 8).

(d) Milligrams of DDT per square meter.

Line A - The number of milligrams of DDT per square meter varied from 1.2 mg to 97 mg. This was from stations #1 to 17 inclusive, with the heaviest deposit at station #1. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter varied from 0.3 mg to 50.9 mg. This was from stations #1 to 17 inclusive, with the heaviest deposit at station #3. (See Incl. 9).

Test No. 8.- This test was conducted at an altitude of 150 feet. The S.C.I. contained 10% DDT in #2 fuel oil with 20% Barrett's Heavy Solvent added as an auxiliary solvent. The wind direction shifted 90° at the time of the spray run and consequently the DDT spray was carried back along the length of the flight path and very little was deposited on the stations. (See Incl. 8).

Test No. 9.- This test was conducted at an altitude of 150 feet. The S.C.I. contained 10% DDT in #2 fuel oil with 20% Barrett's Heavy Solvent, added as an auxiliary solvent. The most effective portion of the pattern was at stations No. 11, 13, and 17 on line A, and negligible on line B. On this run, the forward detonator did not fire and the S.C.I. tank trickled DDT solution for a considerable length of time as compared to the normal time of discharge. (See Incl. 8).

Test No. 10.- This test was conducted at an altitude of 50 feet. The S.C.I. contained 5% DDT in No. 2 diesel fuel oil. The most effective portion of the pattern was not more than 50 yards wide at line A and the same on line B.

(a) Percentage of fly kill.

Line A - 100% of flies exposed to petrie dishes from station No. 3 were killed in 102 minutes. (See Incl. 8).

Line B - 100% of flies exposed to petrie dishes were killed in 55 minutes at station No. 1 and 53 minutes at No. 3. The percentage of fliers in cages that were killed was 100% at station No. 1. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was 95% at station No. 3. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was 95% at station No. 1. (See Incl. 8).

(c) Particle (Droplet) size.- Not enough particles were recorded to give any indication of particle size on this test. (See Incl. 8).

(d) Milligrams of DDT per square meter.

Line A - The number of milligrams of DDT per square meter was very low and varied from 0.2 mg to 1.0 mg. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter was very low and varied from 0.2 mg to 1.1 mg. (See Incl. 9).

Test No. 11.- This test was conducted at an altitude of 50 feet. The S.C.I. contained 5% DDT in no. 2 diesel fuel oil. The most effective portion of the pattern was 50 yards wide on line A and the same on line B.

(a) Percentage of fly kill.

Line A - 100% of flies exposed to petrie dishes were killed in 9 minutes at station No. 1 and 20 minutes at station No. 3. (See Incl. 8).

Line B - 100% of flies exposed to petrie dishes were killed in 28 minutes at station No. 1 and 110 minutes at station No. 3. The percentage of flies in cages that were killed was below 90% at all stations. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was 95% at station No. 1 and 5. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was 100% at stations No. 1 and 3 with 90% kill at station No. 7. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from 198 microns at station No. 1 to 66 microns at station No. 9. The size of all particles recorded was below 400 microns. (See Incl. 8).

Line B - Particle size in microns varied from 132 microns at station No. 1 to 88 microns at station No. 3. The size of all particles recorded was below 200 microns. (See Incl. 8).

(d) Milligrams of DDT per square meter.

Line A - The number of milligrams of DDT per square meter varied from 0.3 mg to 21.3 mg. This was from station No. 1 to 15 inclusive, with the heaviest deposit at station No. 1. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter varied from 0.3 mg to 3.5 mg. This was from station No. 1 to 17 inclusive, with the heaviest deposit at station No. 1 (See Incl. 9).

Test No. 12.- This test was conducted at an altitude of 50 feet. The S.C.I. contained 10% DDT in No. 2 diesel fuel oil with 20% Barrett's Heavy Solvent added as an auxiliary solvent. The most effective portion of the pattern was 100 yards wide at both line A and 100 yards wide on line B.

(a) Percentage of fly kill.

Line A - 100% of flies exposed to petrie dishes were killed in 19 to 96 minutes. This was from stations no. 1 to 17

inclusive. (See Incl. 8).

Line B - 100% of flies exposed to petrie dishes were killed in 22 to 108 minutes at stations No. 11 to 17 inclusive. 100% of flies in cages were killed at stations No. 13 to 17 inclusive. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was 100% at stations No. 1, 5, and 13, and 15, with 95% kill at stations No. 3 and 17. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was 100% at stations No. 15 and 17 with 90% kill at station No. 13. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from 154 microns at station No. 3 to 264 microns at station No. 13. The size of all particles recorded was below 400 microns. (See Incl. 8).

Line B - Particle size in microns varied from 88 microns at station No. 9 to 352 microns at station No. 17. The size of all particles recorded was below 600 microns. (See Incl. 8).

(d) Milligrams of DDT per square meter.

Line A - The number of milligrams of DDT per scuare meter varied from 0.2 mg to 3.5 mg. This was from stations No. 1 to 17 inclusive, with the heaviest deposit at station No. 1 and 15. (See Incl. 9).

Line B - The number of milligrams of DDT per scuare meter varied from 1.2 mg to 37.8 mg. This was from station No. 1 to 17 inclusive, with the heaviest deposit at station No. 17. (See Incl. 9).

Test No. 13.- This test was conducted at an altitude of 50 feet. The S.C.I. contained 10% DDT in No. 2 diesel fuel oil with 20% Barrett's Heavy Solvent added as an auxiliary solvent. The most effective portion of the pattern was 200 yards wide at line A and 250 to 300 yards wide on line B.

(a) Percentage of fly kill.

Line A - 100% of flies exposed to petri dishes were killed in 11 to 64 minutes. This was from station No. 7 to 17 inclusive. (See Incl. 8).

Line B - 100% of flies exposed to petri dishes were killed in 10 to 100 minutes. This was from station No. 1 to 17

inclusive. (See Incl. 8). 100% of flies in cages were killed from station No. 7 to 17. (See Incl. 8).

(b) Percentage of mosquito larvae kill.

Line A - The percentage of mosquito larvae kill was 100% at station No. 11, 15, and 17 with 95% kill at station No. 9 and 13. (See Incl. 8).

Line B - The percentage of mosquito larvae kill was 100% at stations No. 7 to 17 excepting 11 where the kill was 70%. The kill was 90% at station No. 5. (See Incl. 8).

(c) Particle (Droplet) size.

Line A - Particle size in microns varied from 154 microns at station No. 5 to 374 microns at station No. 11. The size of all particles recorded was below 600 microns. (See Incl. 8).

Line B - Particle size in microns varied from 132 microns at station No. 3 and 13, to 352 microns at station No. 17. The size of all particles recorded was below 600 microns. (See Incl. 8).

(d) Milligrams of DDT per square meter.

Line A - The number of milligrams of DDT per square meter varied from 0.7 mg to 76.0 mg. This was from station No. 1 to 17 (No. 3 excepted), with the greatest deposit at station No. 17. (See Incl. 9).

Line B - The number of milligrams of DDT per square meter varied from 2.3 mg to 61.4 mg. This was from station No. 1 to 17 inclusive, with the greatest deposit at station No. 17. (See Incl. 9).

FOR THE ARMY AIR FORCES BOARD:

A. C. STRICKLAND
Brigadier General, U. S. Army
President

OFFICIAL:

Gustav A. Neuberg
GUSTAV A. NEUBERG
Lt. Colonel, AGD
Recorder

DIRECTIVE FOR PROJECT

HEADQUARTERS ARMY AIR FORCES
WASHINGTON 25, D. C.

AFRBD-1r
6 July 1944

SUBJECT: Conductance of D.D.T. Tests for the British Air Commission

TO: President, Army Air Forces Board
Orlando, Florida

1. The British Air Commission has requested this Headquarters to authorize the AAF Board to conduct limited tests to determine, in conjunction with project (M-5)212, the most practical means of disseminating insecticides D.D.T. from aircraft using standard British equipment.

2. The British Air Commission is in a position to furnish without delay six 500 lb. S.C.I.'s, type S/G and a quantity of fifty each inlet and outlet discs and detonators. Also, if required, they may be able to furnish a Vengeance airplane (A-35B) fitted with British Universal bomb racks to take the 500 lb. S.C.I.'s.

3. It is requested that the AAF Board conduct such tests as necessary to determine the practicability of employing British standard aircraft and equipment as means of disseminating insecticide D.D.T. for area insect control. Those tests which require depot modification of equipment will not be undertaken.

4. Coordinating details may be handled between the R.A.F. liaison officer, AFTAC and W/C R. Hazlewood, British Air Commission, Washington 6, D.C. (Telephone - Decator 9000, extension 63).

By command of General ARNOLD:

/s/ William F. McKee
WILLIAM F. McKEE
Colonel, Air Corps
Deputy Asst. Chief of Air Staff
Operations, Commitments &
Requirements

TEST PROGRAM

TEST PROGRAM FOR ARMY AIR FORCES BOARD PROJECT F3735

1. GENERAL

a. British S.C.I. (Smoke Curtain Installation) tank is a twenty-five (25) imperial gallon bomb bay tank. For the purpose of this project, the S.C.I. is to be modified for carrying on wing racks. It weighs approximately five hundred (500) pounds filled, armed, and mounted. The outstanding differences between this tank and the M10 APST are: The air inlet and the outlet are smaller than that of the M10 APST. In addition the S.C.I. normally has only one carrier lug and has to be modified to be carried on A-20 type aircraft.

b. This is a SECOND PRIORITY experimental test.

c. The following materials are required for this test:

495 gallons	-	#2 diesel oil in 55 gallon drums.
25 pounds	-	Anthraquinone blue AB base (dye).
8 each	-	Pots, smoke, HC, M1.
24 each	-	No. 4, electric blasting caps, 4 to 6 foot leads.
24 each	-	Air inlet closure plates for M10 smoke tanks.
48 each	-	Air inlet gaskets for M10 smoke tanks.
24 each	-	Discharge closure plates for M10 smoke tanks.
48 each	-	Discharge gaskets for M10 smoke tanks.
4 each	-	M10 smoke tanks.

The above requirements are necessary in order to cover all necessary tests.

d. This test has been requested by 1st Ind. Army Air Forces Board, Orlando, Florida, dated 12 July 1944, to Commanding General, Army Air Forces Tactical Center, Orlando, Florida.

e. The project officer is 1st Lt. Sterling R. Forney, 901st AAF Base Unit (Tactical Wing), Assistant Chief, Chemical Warfare Branch.

2. OBJECT: To determine practicability of employing British standard equipment as a means of disseminating Insecticide D. D. T. for area insect control.

3. METHOD OF CONDUCTING TEST:

a. Phases

(1) Preliminary

(a) Test area - A lake of sufficient size and shape

to permit laying, observing, and photographing spray patterns required. A minimum area 1,000 yards long by 300 yards wide should be allowed for each pattern.

(b) Filling, handling, and hanging of spray tanks will be performed by Chemical Warfare Service troops. Appropriate personnel will also be needed for weather reporting, photographing, observation, and other ground work at target.

(c) The following oil will be used in tests: No. 2 diesel oil comparable to that used in tests on AAF Board Project (M-5) 212, See F-3486.

(d) British S.C.I.'s to be furnished by British Air Commission. Tanks will be mounted and flight tested on A-20G aircraft by AFTAC.

(e) General Airplane requirements:
One (1) A-20G airplane for laying spray.
One (1) photographic and observation airplane equipped for taking photographs to scale. NOTE: Services of same airplanes and crews will be furnished for all tests if possible.

(2) Main

(a) Event 1 - Comparative test of distribution patterns of S.C.I. and M10 smoke tanks.

1. Two (2) crosswind spray patterns each with #2 diesel oil from one (1) British S.C.I. released at minimum altitude. (25 feet over water)

2. Two (2) crosswind spray patterns each with #2 diesel oil from one (1) M10 tank released from minimum altitude. (25 feet over water)

3. Missions 1 and 2 to be run under same wind conditions and photographed at the same time.

(b) Event 2.

1. Two crosswind spray patterns each with #2 diesel oil, from 200 feet altitude over water, from one (1) British S.C.I.

2. Two crosswind spray patterns each with #2 diesel oil, from one (1) M10 tank released

from 200 feet altitude over water.

3. Missions 1 and 2 to be run under same wind conditions and photographed at same time.

(c) Event 3 - Entomological and Physical Determinations.

1. Two (2) single tank releases of 5% DDT solutions over the target area at an altitude of 50 feet, operational speed cross wind, with wind velocity of between 3 and 10 m.p.h.

2. Two (2) single tank releases of 10% DDT solution over the target area at an altitude of 50 feet, operational speed cross wind, with wind velocity of between 3 and 10 m.p.h.

3. Two (2) single tank releases of 5% DDT solution over the target area at an altitude of 150 feet, operational speed cross wind, with wind velocity of between 3 and 10 m.p.h.

4. Two (2) single tank releases of 10% DDT solution over the target area at an altitude of 150 feet, operational speed cross wind, with wind velocity of between 3 and 10 m.p.h.

5. Two (2) single tank releases of 5% DDT solution over the target area at an altitude of 300 feet, operational speed cross wind, with wind velocity of between 3 and 10 m.p.h.

6. Two (2) single tank releases of 10% DDT solution over the target area at an altitude of 300 feet, operational speed cross wind, with wind velocity of between 3 and 10 m.p.h.

b. From the above tests, the following observations will be made and the following compiled:

(1) Percentage of fly kill at each station.

(2) Percentage of mosquito larvae kill at each station.

(3) Percentage of particle (droplets) size at each station.

(4) Density (quantity of DDT per square meter at each station).

(5) ctive pattern width at each altitude and with each type of DDT solution.

(6) Time and rate of discharge for each tank release. From the time and rate of discharge, an estimate of the pattern length will be given.

NOTES:

1. Comparative releases of M10 and S.C.I.'s to be made at same time and under same conditions. Two comparative releases under each condition are provided to allow average.

2. Each pattern must be photographed immediately (30 to 60 seconds) after application to prevent distortion of pattern by water movement. Photographs must be made accurately to scale.

3. Meteorological data must be carefully measured and recorded on each mission. Wind should be 4 to 10 M.P.H.

4. Facility of filling, handling, arming, and general functioning of the British S.C.I.'s as compared to the M10 airplane smoke tank will be carefully observed in all operations and on all missions. The nature and cause of all difficulties and malfunctions will be carefully recorded.

5. A conference of participating personnel as designated by the Project Officer will be held prior to the beginning of the tests, in order to thoroughly acquaint all personnel with the objective, methods to be followed, and their respective responsibilities.

6. Participating personnel will be carefully briefed before each mission.

7. Close liaison will be maintained throughout the test between the Project Officer, AFTAC; the Project Officer, AAF Board; the Project Officer, 901st AAF Base Unit (Tactical Wing); the British Liaison Officer, and other participating personnel. At the conclusion of the test a conference of all the above mentioned personnel will be held for the purpose of compiling, analyzing, and evaluating the data obtained from the test.

8. Any or all of the aforementioned missions may be repeated if necessary, and at the discretion of the Project Officer.

RECORDS:

1. Forms and records to be used will be prescribed and issued by the Project Officer to pertinent personnel.

2. Other data on each mission will include wind speed, wind direction, temperature, humidity, time of day, and general weather characteristics.

3. Air planes and Air Operations. - Type airplane used, altitude,

air speed, and direction of flight in degrees with respect to direction of wind (all missions will be flown as near as possible to 90° with the wind direction or crosswind).

4. Chemical Tanks. - Type and size, amount and type filling, number position on airplane, failures, general performance, time of discharge, weight and amount of residue left in tanks after mission, character of spray at release and end points.

5. Filling, Handling, and Arming Operations. - Procedure, facility and time required for filling, handling and arming the test tank compared to the M10 AFST will be carefully noted and recorded. Any difficulties in these operations will be recorded.

6. Target. - Description, condition at time of mission, extent, size, and shape of pattern.

7. Chemical Agent. - Description, weight and amount per tank, specific gravity.

EVALUATION OF DATA AND REPORTS:

All data collected, records, tabulations, analyses, computations, methods, evaluations, etc., will be placed in the report form prescribed by the AAF Board and will be submitted in triplicate to the AAF Board upon completion of the tests.

DATA ON MODIFICATION OF BRITISH 500 LB. S.C.I.

OFFICE OF THE ARMAMENT OFFICER
SQUADRON L BOMB (L) 904th AAF BASE UNIT (FIGHTER) VHL/E/1
KISSIMMEE ARMY AIR FIELD
KISSIMMEE FLORIDA

12 January 1945

SUBJECT: Modification of British Chemical Tank - 500# for Adaption to U.S. Army Air Corps Wing Racks.

TO : Project Officer, Squadron L, 904th AAF Base Unit, Kissimmee Army Air Field, Kissimmee, Florida.

A. Following are the modifications necessary to adapt the British Chemical Tank - 500# to be carried externally on U.S. Army Air Corps wing racks:

1. Remove rubber insullating covers from tanks.

2. Have carrying bands and carrying lugs manufactured to fit tank body.

3. Install front band against forward side of loading attachment, and rear band 14 inches (center to center) to rear of front band.

4. Have sway bolts manufactured 5/8" x 5" and threaded approximately 3 inches.

5. The loading attachment on tank will not allow the carrying lugs to be as close to tank as desired, leaving a distance of approximately $2\frac{1}{2}$" to 3" between top of tank and bottom of rack, thus longer sway bolts have to be used.

/s/ V.H. La May,
V.H. LA MAY,
2nd Lt., Air Corps,
Armament Officer.

CERTIFIED A TRUE COPY

/s/ Sterling R. Forney,
STERLING R. FORNEY,
Capt, CWS,
Asst Chief, Chem War Br.

Incl. 3

DATA ON FIRST AND SECOND EVENT TESTS

FIRST EVENT - FIRST MISSION

DATE - 25 November 1944.

Run No.	Tank Used	Wind Velocity	Wind Direction	Temperature	Humidity	Results on Photographs
1	SCI	4 MPH	70°	60.2°	73	No result obtained.
2	M10	5 MPH	70°	63°	71	Result on first take gave pattern length, but width could not be determined. Taken 13 seconds after spraying.
3	SCI	5 MPH	70°	66.8°	69	Photographs good on first take, approximately 23 seconds after spraying.

FIRST EVENT - SECOND MISSION

DATE - 9 December 1944.

Run No.	Tank Used	Wind Velocity	Wind Direction	Temperature	Humidity	Results on Photographs
1	SCI	6 MPH	360°	52°	89	**No result obtained.
2	M10	4 MPH	360°	52.5°	88	** No result obtained.
3	SCI	5 MPH	360°	52.5°	86	**No result obtained.
*4	M10	-----	----	----	—	----------

* M10 tank did not release
** Patterns did not show on photographs.

FIRST EVENT - THIRD MISSION

DATE - 14 December 1944.

Run No.	Tank Used	Wind Velocity	Wind Direction	Temperature	Humidity	Results on Photographs
1	SCI	5 MPH	330°	52°	46	No result obtained on first take. Very faint pattern on second take. Outline not clear. Second take approx. 4 min. after spraying.
2	M10	6.5 MPH	310°	51°	45	Negligable result believed due to turbulence over water.

SECOND EVENT - FIRST MISSION

DATE - 14 December 1944.

Run No.	Tank Used	Wind Velocity	Wind Direction	Temperature	Humidity	Results on Photographs
1	SCI	8 MPH	280°	52°	46	Very poor results obtained on photographs. No definite pattern when photographed 34 sec. after spraying.
2	M10	8 MPH	300°	52°	45	No definite pattern obtained on photographs.

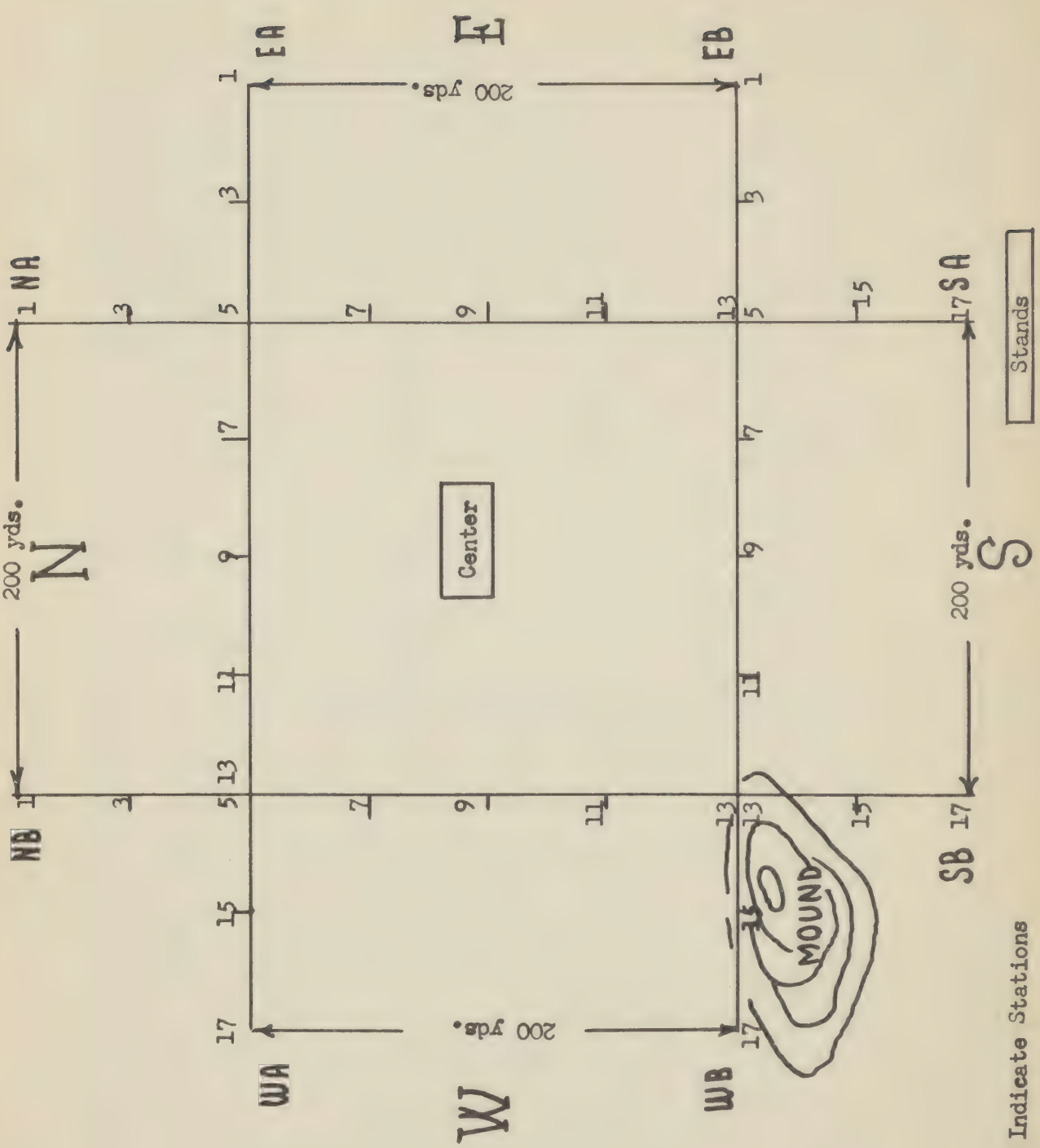
FIRST EVENT - FOURTH MISSION

DATE - 20 December 1944.

Run No.	Tank Used	Wind Velocity	Wind Direction	Temperature	Humidity	Results on Photographs
1	SCI	3 MPH	0°	55°	70	Result of photo pattern was fair. Faint outline obtained giving width, but length could not be determined. Photographed 42 seconds after spraying.
2	M10	3 MPH	0°	55°	70	Result of photo pattern was fair. Faint outline obtained giving width, but only approximate length. Photographed 36 seconds after spraying.

RESTRICTED

DIAGRAM OF RANGE LAYOUT FOR THIRD EVENT TESTS



INCL. 5

Diagram of Entomological Range Layout.

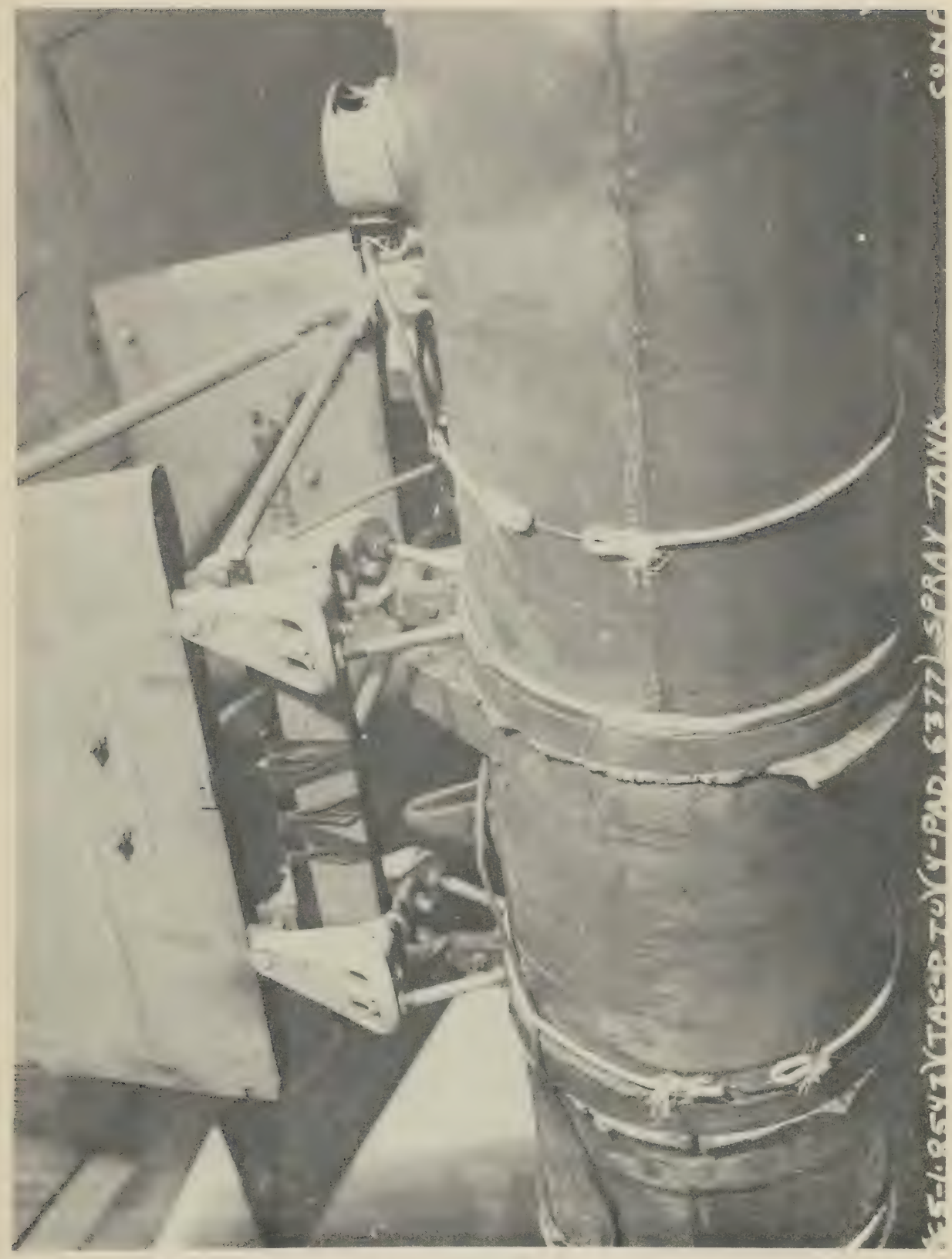
INCLOSURE NO. 6

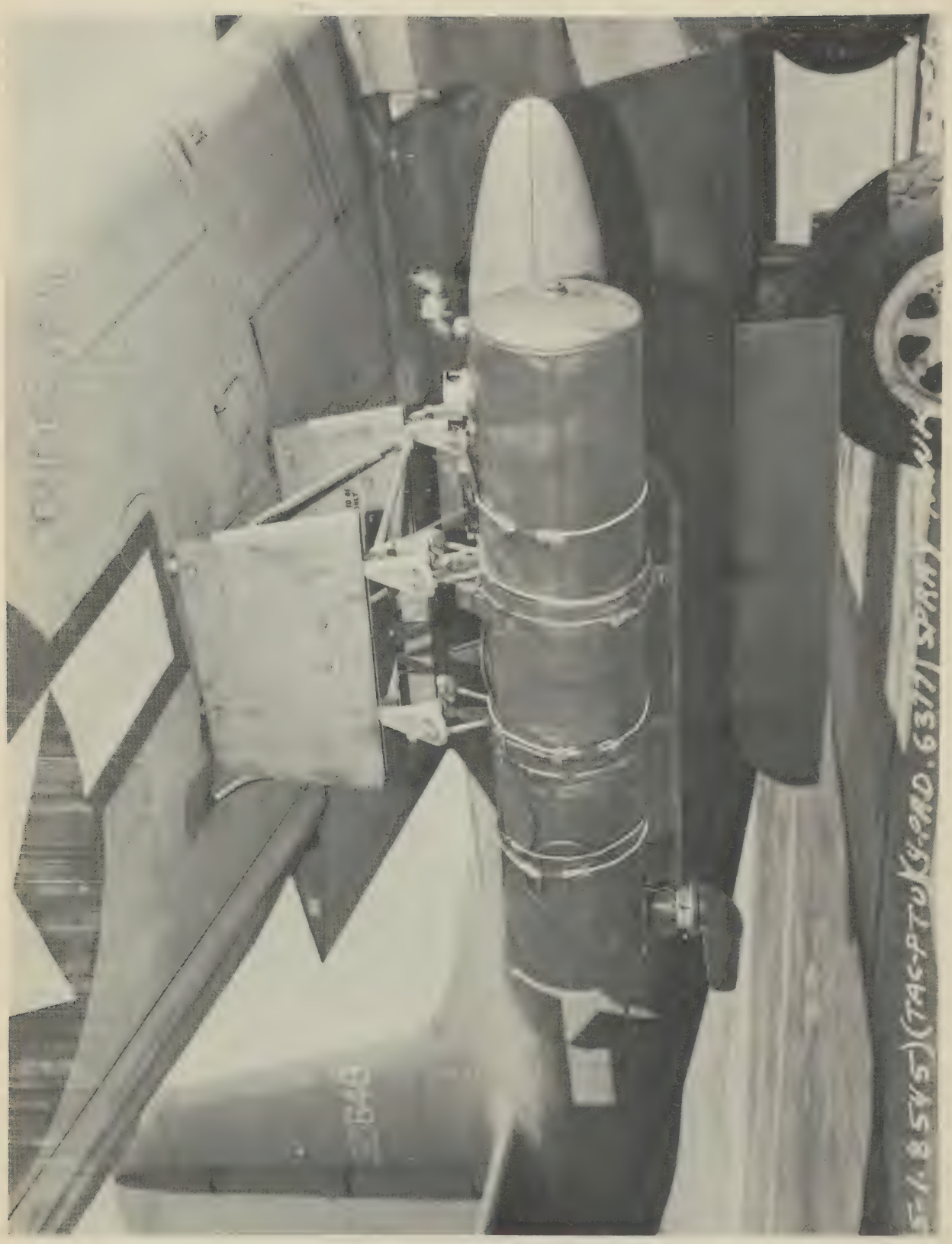
Photographs

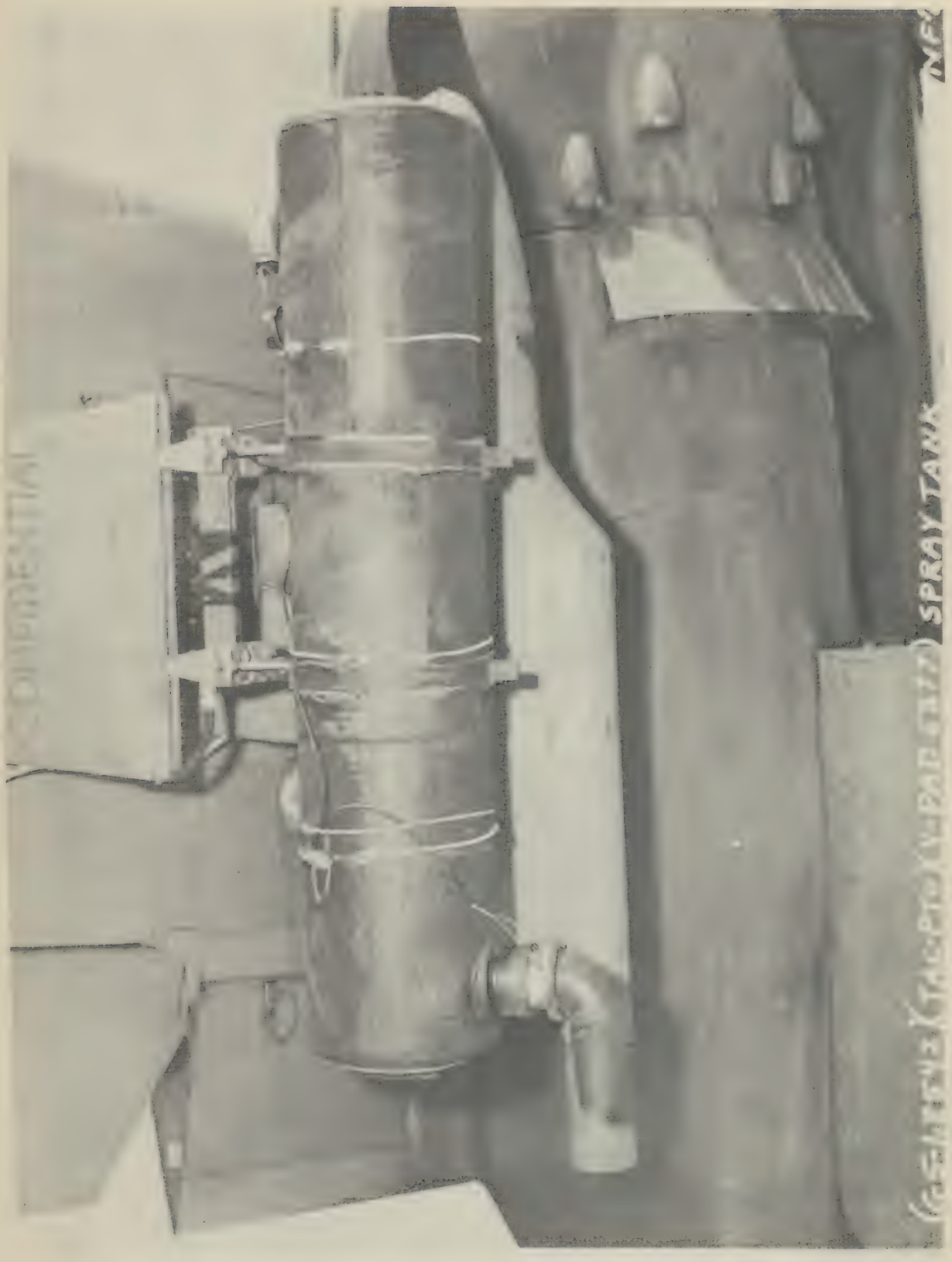
Photos Nos. 1, 2, 3 and 4

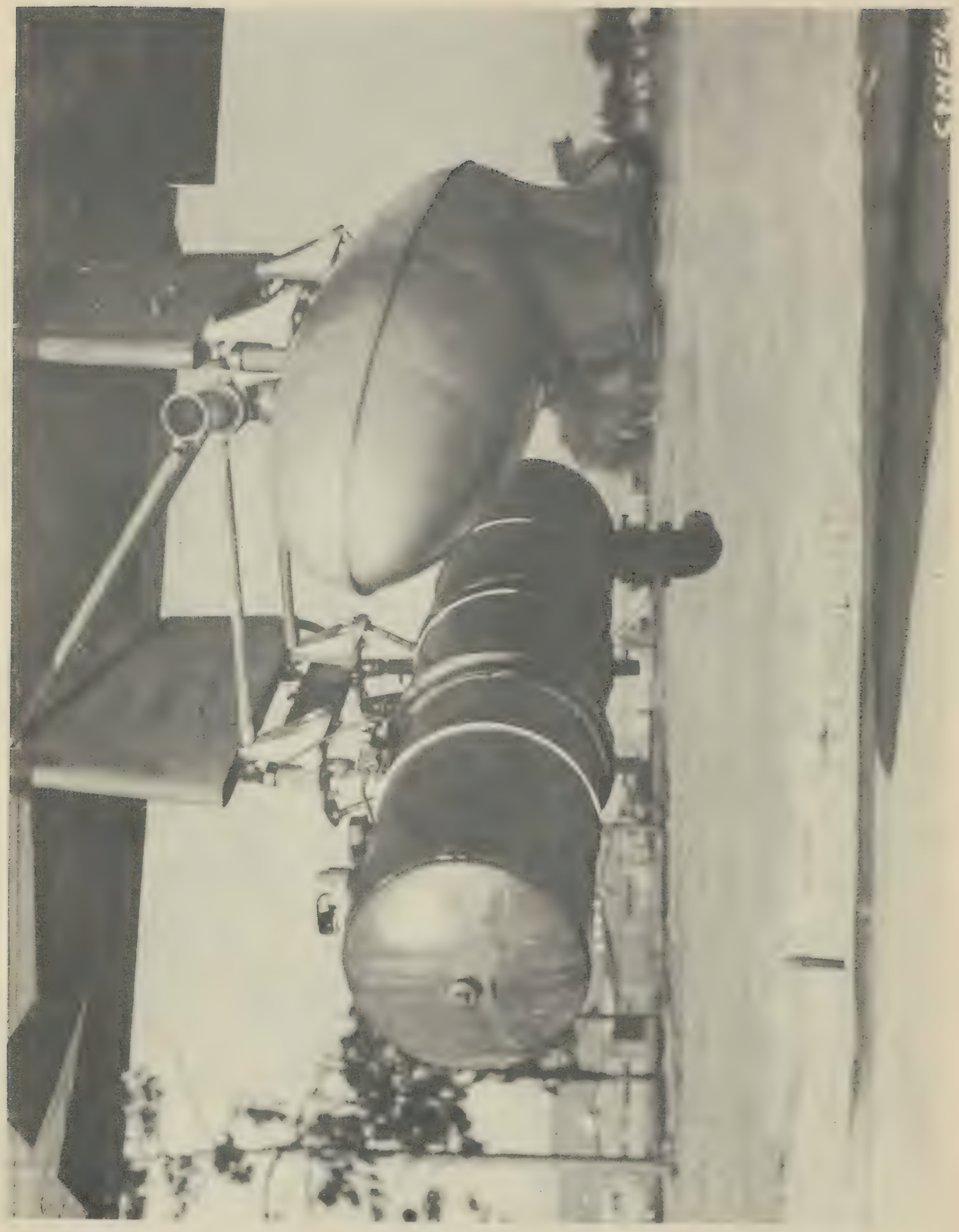
British 500-lb. S.C.I. and U.S. M-10 APST

Installed on A-20-G Wing Rack.






SPRAY TANK



INCL. 6

Photo No. 5

Layout of Meteorological Station.

INCL. 6

Photo No. 6

Entomological and Physical Sampling Station Showing Petrie Dish, Fly Cage, Larvae Container and MgO Slide.

INCL. 6

Photo No. 7

Sample Dish Showing Distribution of Spray Particles.

INCL. 6

Photo No. 8

A-20-G Spraying DDT Solution with British 500-lb. S.C.I.

METEOROLOGICAL DATA FOR THIRD EVENT TESTS

REGIONAL CONTROL OFFICE EMB/RDC/dm-Y
26TH WEATHER REGION
AAF TACTICAL CENTER
Orlando, Florida 13 January 1945

In Reply
Refer to:

Subject: Meteorological Data for AAF Board Project F-3735

To: Commanding General, AAF Tactical Center, Orlando, Florida.
ATTN: Lt. Forney, Sq "A", 901st AAF BU (Tactical Wing)

THRU: Director of Operations and Training.

1. Transmitted herewith is a complete list of meteorological data taken at the Chemical Demonstration Range, AFTAC, on 12 January 1945 in conjunction with AAF Board Project F-3735.

2. Below is an explanation of the symbols appearing in the tabulation of the data:

*	-	denotes time of spray run
T_2	-	temperature at 2 meters (degrees centigrade)
$T_{.3}$	-	temperature at .3 meters (degrees centigrade)
T_6	-	temperature at 6 meters (degrees centigrade)
$T_2 - T_{.3}$	-	temperature at 2 meters minus temperature at .3 meters (degrees centigrade)
$T_6 - T_{.3}$	-	temperature at 6 meters minus temperature at .3 meters (degrees centigrade)
D_2	-	wind direction at 2 meters
V_2	-	wind speed in miles per hour at 2 meters
D_{12}	-	wind direction at 12 meters
V_{12}	-	wind speed in miles per hour at 12 meters
R.H.	-	relative humidity in percent (%)
- 1 (for wind speed)		wind speed of less than 1 mile per hour

Ltr, HCO, 26th Wea Reg, 13 Jan 45, to CG, AFTAC, sub: Meteorological Data for AAF Bd Proj F-3735

3. The temperature difference terms ($T_2 - T_{.3}$, $T_6 - T_{.3}$) indicates the lapse rates of temperature between the heights indicated by the subscripts. The more positive the lapse rate (as defined above) in a layer of air, the more stable the atmosphere in the layer; the more negative the lapse rate in a layer, the more unstable the atmosphere in the layer. A result of instability is turbulence, which can be likened to a boiling effect. With such a condition some of the particles of spray will be momentarily held off the ground by rising currents of air while others will be brought to the ground by rapidly descending currents of air. This is a probable explanation of "spotty" results. A result of stability is a stratification of the atmosphere in which the only movement of air is horizontal. With such a condition there is no overtuning, as with instability, only a steady descent of the particles, the rate of which will increase with increased size of the particles of spray.

4. The lapse rate in the layer between 2 meters and .3 meters is the common chemical warfare lapse rate, and is used to describe stability conditions in the layer most effecting the deposit of spray and smoke on the ground surface. Likewise, the wind at 2 meters is the wind which is considered to have the most important effect at the surface.

5. The lapse rate in the layer between 6 meters and .3 meters, and the 12 meter wind velocity are included to give an indication of conditions at the point of spray release.

/s/ Everett M. Brooks
EVERETT M. BROOKS
Captain, Air Corps
Actg Regional Control Office

1 Incl:
1 pg Meteorological Data (Dup)

Date 27 January 1945

Time	T_2	$T_{.3}$	T_6	$T_2 - T_{.3}$	$T_6 - T_{.3}$	D_2	V_2	D_{12}	V_{12}	R.H.
1400	20.9	21.9	19.8	-1.00	-2.1	ENE	10	E	10	59
1415	21.7	23.15	21.9	-1.45	-1.25	ENE	13	E	15	
1410	21.45	22.75	21.4	-1.30	-1.35	ESE	5	E	11	
1415	21.2	22.7	20.4	-1.50	-2.3	E	9	E	10	
1420	21.2	22.8	20.2	-1.60	-2.6	E	7	ENE	8	
*1423	21.0	22.0		-1.00		ESE	10	E	14	
1424	21.0	21.9		- .90		E	6	E	13	
1427	21.2	22.0	21.3	- .80	- .70	E	9	E	8	
1430	22.1	23.0	20.4	- .90	-2.6	E	7	ENE	9	57
1435	21.35	22.85	22.1	-1.50	- .75	E	8	ENE	11	
1440	21.5	23.1	21.3	-1.60	-1.8	ENE	11	ENE	11	
1445	21.4	22.2	21.9	- .80	- .30	NE	4	E	9	
1450	22.0	22.9	22.1	- .90	- .80	ENE	4	ESE	7	
1455	22.2	24.05	22.2	-1.85	-1.85	ENE	7	E	8	
1500	22.2	23.95	22.7	-1.75	-1.25	ENE	13	ENE	12	57
*1503	20.8	21.55		- .75		E	10	E	15	
1504	20.	21.3		- .60		E	10	ENE	12	
1505	20.65	21.2	20.8	- .55	- .40	E	6	E	10	

Date 1 March 1945

	Time	T_2	T_3	T_6	$T_2 - T_3$	$T_6 - T_3$	D_2	V_2	D_{12}	V_{12}	.....
	1345	28.4	30.1	27.9	-1.7	-2.2	NNE	6	N	4	
	1350	27.4	29.6	27.1	-2.2	-2.5	NNW	8	NNW	5	
	1355	27.5	28.9	27.1	-1.4	-1.8	N	4	NNW	8	
	1400	27.0	28.6	26.8	-1.6	-1.8	NNE	2	W	3	57%
#10	*1405	29.5	31.4	28.1	-1.9	-3.3	W	2	W	-1	
	1406	28.6	30.6	27.1	-2.0	-3.5	NW	5	NW	-1	
	1407	28.5	30.6	27.3	-2.1	-3.3	N	2	N	5	
	1410	28.7	30.9	28.0	-2.2	-2.9	N	-1	NW	-1	
	1415	28.5	30.5	38.0	-2.5	-2.5	NW	4	NW	5	
	1420	27.9	29.3	27.1	-1.4	-2.2	W	2	NW	1	
	1425	28.1	29.7	27.6	-1.6	-2.1	W	2	NNW	-1	
	1430	29.8	32.3	29.0	-2.5	-3.3	W	2	NW	-1	45%
	1435	30.5	32.5	29.4	-2.0	-3.1	NW	-1	SW	3	
	1440	29.4	31.0	28.9	-1.6	-2.1	N	4	WSW	3	
	1445	27.8	28.9	27.3	-1.1	-1.6	NW	3	NNE	6	
	1450	27.5	28.6	27.4	-1.1	-1.2	N	3	NE	5	
#11	*1455	27.5	29.1	27.3	-1.6	-1.8	NE	6	N	5	
	1456	27.2	28.4	27.1	-1.2	-1.3	N	3	N	3	
	1500	27.3	28.7	27.4	-1.5	-1.3	NNE	5	NE	2	54%
	1505	27.6	28.4	27.5	- .8	- .9	NNE	2	ENE	3	
	1510	27.7	29.6	27.6	-1.9	-2.0	NE	4	ENE	5	
	1515	28.5	30.6	27.7	-2.1	-2.9	N	4	NNW	7	
	1520	28.0	29.4	27.4	-1.4	-2.0	NW	5	NNE	8	
#6	*1523	27.9	29.3	27.3	-1.4	-2.0	NNW	4	NNW	3	
	1524	28.4	29.6	27.8	-1.2	-1.8	NNW	2	NNW	3	

Date 1 March 1945 (cont'd)

Time	T_2	T_3	T_6	$T_2 - T_3$	$T_6 - T_3$	D_2	V_2	D_{12}	V_{12}	R.H.
1525	28.8	30.0	27.9	-1.2	-2.1	NNW	2	NNE	3	
1530	28.0	29.3	27.9	-1.3	-1.4	N	4	NNE	6	48%
1535	28.0	29.3	27.8	-1.3	-1.5	NNE	3	NNE	2	
1540	29.0	29.0	27.7	-1.1	-1.4	NW	3	NNW	4	
1545	28.0	29.3	27.7	-1.3	-1.6	NNW	4	W	3	
1550	28.4	30.2	27.8	-1.8	-2.4	NNW	3	NW	2	
2*1552	28.2	30.0	27.8	-1.8	-2.2	WNW	2	NW	2	
1553	28.8	30.5	28.2	-1.7	-2.3	WNW	-1	NW	2	
1554	29.1	30.7	28.3	-1.9	-2.6	WNW	-1	NW	2	

Date 8 March 1945

Time	T_2	T_3	T_6	$T_2 - T_3$	$T_6 - T_3$	D_2	V_2	D_{12}	V_{12}	
1315	28.2	30.5	28.7	-2.3	-1.8	SW	8	SSE	11	
1320	28.8	28.6	26.9	-1.8	-1.7	SSE	9	SSE	8	
1325	28.2	30.5	28.9	-2.3	-1.6	S	7	SSW	11	
1330	27.8	30.0	27.8	-2.2	-2.2	SW	8	SSW	11	43%
1335	27.3	29.4	26.7	-2.1	-2.7	SW	8	SW	10	
1340	28.0	30.7	27.5	-2.7	-3.2	S	10	SSW	10	
#12* 1343	28.3	30.1	27.3	-1.8	-2.8	S	11	SSE	10	
1344	28.0	30.3	27.4	-2.3	-2.9	SSW	11	SSE	12	
1345	28.1	30.0	27.4	-1.9	-2.6	SSE	10	SSE	16	
1350	28.2	31.0	28.2	-2.8	-2.8	SSW	10	S	6	
1355	28.4	31.1	27.9	-2.7	-3.2	S	10	SSE	9	
1400	28.4	31.2	28.4	-2.8	-2.8	SSW	10	SSW	12	44%
1405	28.4	30.9	28.0	-2.5	-2.9	SSW	9	SW	9	
1410	29.2	31.6	28.6	-2.4	-3.0	S	4	SW	8	
#13* 1413	29.2	31.5	28.4	-2.3	-3.1	S	6	SE	15	
1414	28.3	30.5	28.2	-2.2	-2.3	S	10	SSW	11	42%

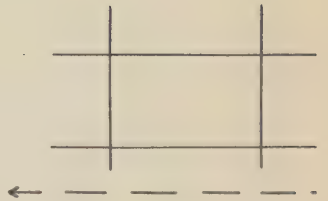
Date 7 March 1945

	Time	T_2	T_3	T_6	$T_2 - T_3$	$T_6 - T_3$	D_2	V_2	D_{12}	V_{12}	Ref.
	1425	29.1	31.7	27.8	-2.6	-3.9	WSW	7	W	8	
	1430	28.9	31.6	28.2	-2.7	-3.4	S	3	NNW	5	41%
	1435	29.1	31.6	28.1	-2.5	-3.5	SSW	12	SW	8	
#8	*1440	28.6	31.2	28.4	-2.6	-2.8	SW	10	W	12	
	1441	28.4	31.2	27.9	-2.8	-3.3	WSW	9	W	10	
	1445	30.0	32.3	28.0	-2.3	-4.3	NNW	8	SW	9	
	1450	29.1	32.1	27.9	-2.0	-4.2	W	8	W	4	
	1455	29.8	31.8	28.1	-2.0	-3.7	W	7	SW	6	
	1500	29.0	31.7	27.8	-2.7	-3.9	WSW	6	W	13	39%
	1505	29.0	32.2	28.3	-2.2	-3.9	S	6	SW	9	
	1510	29.8	31.9	28.5	-2.1	-3.4	SSW	6	SW	5	
#9	*1511	29.8	31.6	28.5	-1.8	-3.1	SW	10	WSW	10	
	1515	29.2	31.9	28.7	-2.7	-3.2	SW	3	W	9	
	1520	29.2	32.0	28.2	-2.8	-3.8	W	5	NW	4	
	1525	29.2	31.8	28.3	-2.3	-3.5	WNW	5	N	5	
	1530	29.2	31.8	27.9	-2.6	-3.9	NNW	2	NE	7	35%
#3	*1535	29.7	32.5	28.6	-2.8	-3.9	WNW	5	NW	4	
	1536	29.7	32.5	28.6	-2.8	-3.9	NW	-1	WNW	4	
	1540	30.0	32.5	29.2	-2.3	-3.1	SW	8	SW	3	
	1545	29.3	31.7	28.7	-2.4	-3.0	WSW	5	NW	7	
	1550	30.0	31.8	28.8	-1.8	-3.0	WSW	7	W	5	
	1555	30.0	32.1	28.8	-2.1	-3.3	SSW	8	W	11	
#4	*1600	29.8	31.9	28.5	-2.1	-3.4	W	8	WSW	8	36%
	1601	29.8	31.9	28.5	-2.1	-3.4	WNW	4	SW	3	
	1602	29.8	31.9	28.5	-2.1	-3.4	SW	3	SW	5	

DENSITY DATA ON TESTS IN THIRD EVENT

THIRD EVENT - NO 1

Date - 12 January 1945.
Test No. - 1.
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 300 feet.
Airspeed - 200 MPH
Airplane - A-20G.
Time of Flight - 1550 hours.
Mixture - 5% (w/v) DDT in No. 2 diesel fuel oil with du Pont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 5 MPH at 2 meters.

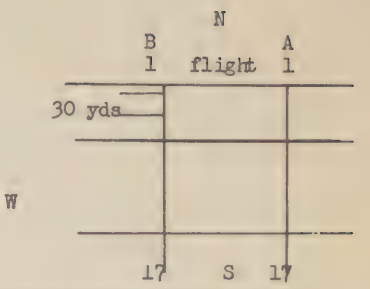


Station	Line A										Line B									
	Mosquito Larvae 1/ (%) Kill	Flies in dishes 3/ 50% down (min)	Flies in dishes 3/ 100% down (min)	Particle Data 4/ No. per sq. in.	Particle Data 4/ Med. Diam. by wt. (mic.)	Particle Data 4/ Per cent of total spray by wt. in drops below 100 mic.	Particle Data 4/ Per cent of total spray by wt. in drops below 200 mic.	Particle Data 4/ Per cent of total spray by wt. in drops below 400 mic.	Particle Data 4/ Per cent of total spray by wt. in drops below 800 mic.		Mosquito Larvae 1/ (%) Kill	Flies in dishes 3/ 50% down (min)	Flies in dishes 3/ 100% down (min)	Flies in Cages % Kill 2/	Particle Data 4/ No. per sq. in.	Particle Data 4/ Med. Diam. (mic.)	Particle Data 4/ Percent of total spray by wt. in drops below 100 mic.	Particle Data 4/ Percent of total spray by wt. in drops below 200 mic.	Particle Data 4/ Percent of total spray by wt. in drops below 400 mic.	Particle Data 4/ Percent of total spray by wt. in drops below 800 mic.
1	25	17	23	0.7							85	7	16	64						
3	75	—	—	6	282	0.3	0.3	100	—		95	6	16	100						
5	95	20	21	3	434	0	0	20	100		90	13	23	100						
7	90	9	25	3	456	0	0.9	6.2	100		100	8	66	72						
9	5	5	8	3	650	0	0	5.6	33		85	8	19	37						
11	0	13	20	0.3							30	7	11	53						
13	0	96	240/	0							0	9	18	17						
15	20	240/	240/	0							10	240/	240/	42						
17	15	240/	240/	0							0	240/	240/	0						

1/ Per cent mortality in 24 hours of Anopheles quadrimaculatus larvae.
2/ Per cent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

THIRD EVENT - NO. 2

Date - 1 March 1945.
Test No. - 2.
Tank used - British S. C. I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 300 ft.
Airspeed - 200 MPH
Airplane - A-26B.
Time of Flight - 1552
Mixture - 5% (w/v) DDT in No. 2 diesel fuel oil with du Pont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 2 MPH.



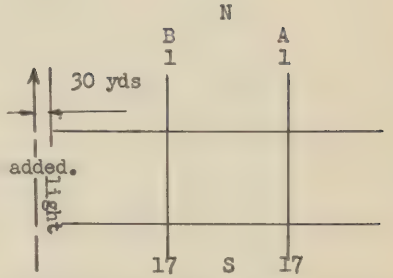
Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data 4/ Med. Diam by wt. (mic)	Line A: Particle Data 4/ Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in Cages % Kill 2/	Line B: Particle Data No. per sq. in	Line B: Particle Data Med. Diam. by wt. (mic)	Line B: Particle Data Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.
1	10	15	26	98	242	1.38	24.2	100		100		240	15.4	18	110	16.0	100		
3	0	61	97	13	176	7.7	100			90		240	44.7	13	220	1.26	22.3	100	
5	0	65	110	16	242	4.1	19.0	100		20	122	240	29.0	10	110	1.04	5.4	100	
7	90	79	240	13	154	5.3	100			65		240	27.3	1					
9	0		240	6	132	16.6	100			5		240	36.4	2					
11	5	67	240	15	176	7.8	100			20		240		1					
13	15	77	240	6		2.0	100			35		240		0					
15	5	74		1						10				1					
17	10	92		1						0				1					

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT - NO. 3

Date - 7 March 1945.
Test No. - 3
Tank used - British S. C. I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 300 ft.
Airspeed - 200 MPH
Airplane - A-26B
Time of Flight - 1535
Mixture - 10% (w/v) DDT. 24 gals. No. 2 diesel fuel oil. 6 gals. Barrett's heavy solvent. duPont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 5 MPH



Station	Line A: Mosquito Larvae 1/ (%) Kill	Flies in dishes 3/: 50% down (min)	100% down (min)	Particle Data 4/: No. per sq. in.	Med. Diam by wt. (mic)	Per cent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Flies in dishes 3/: 50% down (min)	100% down (min)	Flies in Cages: % Kill 2/	Particle Data: No. per sq. in	Med. Diam. by wt. (mic)	Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.
1	100		240	0						15		240	86.6	1					100
3	100	109	227	0						45	43	50	81.0	1				100	
5	100	108	123	1			100			90	39	48	94.1	2				100	
7	90	27	35	1					100	95	31	44	98.2	2					100
9	0	33	32	4				100		75	7	19	85.5	3				100	
11	40	17	26	6	154	1.1	100			100	11	21	97.8	5	418			34.9	100
13	50	16	25	54	418	.35	4.9	56.2	100	80	13	19	93.3	1					100
15	10	17	26	90	198	4.9	54.7	100		65	8	17	96.6	2	528	.91	.91	100	
17	15	18	27	457	330	1.3	17.1	100		5	2	12	93.3	1		100			

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

THIRD EVENT - NO. 4

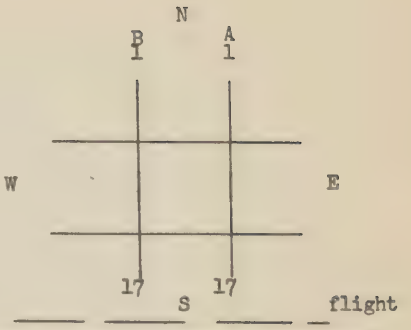
Date - 7 March 1945.
Test No. - 4
Tank used - British S. C. I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 300 ft.
Airspeed - 200 MPH
Airplane - A-26B
Time of Flight - 1600
Mixture - 10% (w/v) DDT. 24 gals. No. 2 diesel fuel oil. 6 gals. Barrett's heavy solvent. duPont oil red dye.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 8 MPH.

Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data 4/ Med. Diam (mic)	Line A: Particle Data 4/ Per cent of total spray by wt. in drops below 100 mic.	Line A: Particle Data 4/ Per cent of total spray by wt. in drops below 200 mic.	Line A: Particle Data 4/ Per cent of total spray by wt. in drops below 400 mic.	Line A: Particle Data 4/ Per cent of total spray by wt. in drops below 800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in Cages % Kill 2/	Line B: Particle Data 4/ No. per sq. in.	Line B: Particle Data 4/ Med. Diam. (mic)	Line B: Particle Data 4/ Percent of total spray by wt. in drops below 100 mic.	Line B: Particle Data 4/ Percent of total spray by wt. in drops below 200 mic.	Line B: Particle Data 4/ Percent of total spray by wt. in drops below 400 mic.	Line B: Particle Data 4/ Percent of total spray by wt. in drops below 800 mic.
1	5	2	10	1			100			40	18	31	25		— slide spoiled —				
3	90	15	25	10			100			60	16	20	58.3	12	198		50	100	
5	100	14	20	11	286		4.6	100		85	14	24	100	21	198	.3	24.5	100	
7	100	13	19	16	330	.27	15.8	100		85	14	22	100	16	220	3.4	18.3	100	
9	100	13	18	33	286	1.0	36.0	100		70	14	19	100	26	154	7.1	100		
11	100	11	16	22	264	.33	14.3	100		100	11	14	100	42	176	2.2	100		
13	100	9	16	13	330	.07	.68	25.3	100	100	11	12	100	29	198	.8	6.8	100	
15	100	9	17	125	242	1.3	26.1	100		100	11	15	100	117	220	1.3	33.9	100	
17	100	8	13	135	286	2.8	20.6	100		100	8	14	100	3	132	.6	1.8	1.8	100

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

THIRD EVENT - NO 5

Date - 12 January 1945.
Test No. - 5.
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 feet.
Airspeed - 200 MPH.
Airplane - A-20G.
Time of Flight - 1612 hours.
Mixture - 5% (w/v) DDT in No. 2 diesel fuel oil with du Pont oil red dye added.
Quantity in Tank - 30 Americal Gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 8 MPH at 2 meters.



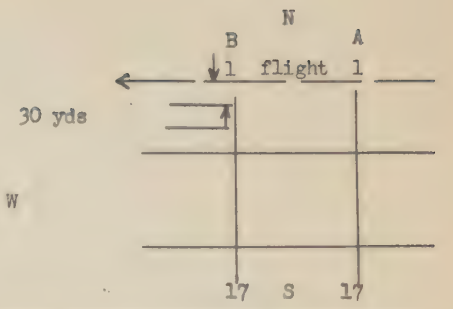
Station	Line A: Mosquito Larvae/(%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data 4/ Med. Diam. (mic.)	Line A: Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.	Line B: Mosquito Larvae/(%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in Cages (%) Kill 2/	Line B: Particle Data 4/ No. per sq. in.	Line B: Particle Data 4/ Med. Diam. (mic.)	Line B: Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.
1	60	107	142	-						75	73	240/	100	11	152	14.5	100	---	---
3	15	19	32	1	260	0	22	100	---	100	12	23	90	16	434	0.4	7.6	7.6	100
5	100	18	33	12	369	0	8.2	62	100	70	12	17	97	15	369	0.5	6.5	44	100
7	25	18	22	11	260	0.6	22	100	---	70	20	25	100	4	868	0	0.08	0.4	11
9	100	11	15	3	412	0	0	34	100	75	11	19	100	3	542	0	0	7.5	31
11	100	41	51	1						100	240/	240/	100	8	434	0.3	2	15	100
13	0	240/	240/	0						55	240/	240/	12	0					
15	0	240/	240/	0						0	240/	240/	3	0					
17	2	240/	240/	0						0	240/	240/	100(?)	0					

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT - NO. 6

Date - 1 March 1945.
Test No. - 6
Tank used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150
Airspeed - 200 MPH
Airplane - A-26B
Time of Flight - 1523.
Mixture - 5% (w/v) DDT in No. 2 diesel fuel oil with duPont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 4 MPH.



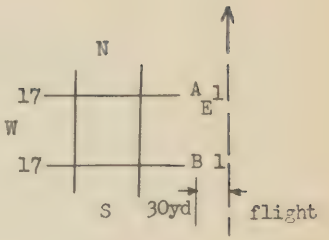
Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data 4/ Med. Diam. by wt. (mic)	Line A: Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in Cages: % Kill 2/	Line B: Particle Data 4/ No. per sq. in.	Line B: Particle Data 4/ Med. Diam. by wt. (mic)	Line B: Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.
1	100	10	15	90	440	.3	.8	30.5	100	100	7	12	100	270	220	1.5	30.7	100
3	100	9	14	117	264	.003	.97	100		100	15	30	87.0	105	286	.48	19.8	100
5	100	8	18	86	198	.29	43.9	100		100	12	34		67	220	3.0	36.5	100
7	10	29	35	51	242	3.2	17.2	100		100	36	53	0.0	12	110	10.9	100	
9	90	23	47	43	198	2.4	54.3	100		100	88	240	0.0	15		6.8	100	
11	90	31	46	22	154	7.7	55.9	100		100	36	85	36.8	16	220	1.3	25.8	100
13	0	75	240	7	198	4.4	44.7	100		100	84	223	16.3	1				
15	25	89	120	16	132	18.5	100			60		240	43.8	1				
17	90	82	126	1						85	49	77		8	242	1.9	1.9	100

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT NO. 7

Date - 27 January 1945.
Test No. - 3.
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 feet.
Airspeed - 200 MPH.
Airplane - A-20G.
Time of Flight - 1503 hours.
Mixture - 10% (w/v) DDT in No. 2 diesel fuel oil with du Pont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B - 200 yards apart. (See Drawing)
Odd numbered stations - 50 yards apart. (See Drawing)
Wind Velocity - 10 MPH at 2 meters.



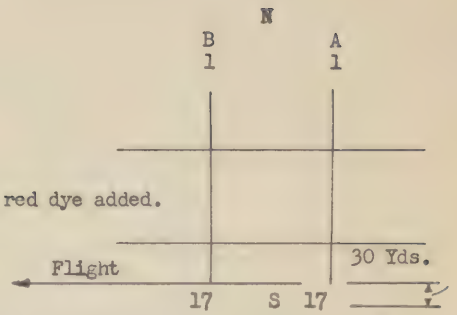
Station	Line A: Mosquito Larvae 1/ (%)	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. Per sq. in.	Line A: Particle Data 4/ Med. Diam. by wt. (mic)	Line A: Percent of total spray by wt. in drops below 100 mic	Line A: Percent of total spray by wt. in drops below 200 mic	Line A: Percent of total spray by wt. in drops below 400 mic	Line A: Percent of total spray by wt. in drops below 800 mic	Line B: Mosquito Larvae 1/ (%)	Line B: Flies 2/ in Cages (%)	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Particle Data 4/ No. per sq. in.	Line B: Particle Data 4/ Med. Diam. by wt. (mic)	Line B: Percent of total spray by wt. in drops below 100 mic	Line B: Percent of total spray by wt. in drops below 200 mic	Line B: Percent of total spray by wt. in drops below 400 mic	Line B: Percent of total spray by wt. in drops below 800 mic
1	100	5	9	100	434	0.4	3.0	32.9	100	100	100	1	9	9	650	-	-	4.4	39.5
3	100	6	17	53	217	75	37.3	100	-	95	100	6	8	50	325	64	2.9	31.3	100
5	95	28	25	33	152	17.3	49.4	100	-	100	100	7	8	50	174	12	32.7	100	-
7	75	23	44	22	217	5.5	59.1	100	-	100	100	14	15	40	152	3.5	88.1	100	-
9	80	42	86	11	152	8.8	100		-	35	11	34	79	15	130	11.4	58.7	100	-
11	0	42	113	4						0	6	-	-	0					
13	40	-	-	6						0	4	129	-	0					
15	30	-	-	3						5	0	-	-	0					
17	0	-	-	3						0	0	-	-	0					

1/ % mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ % mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knock-down of houseflies in exposed petri dishes. No knock-down in untreated checks.
4/ Measurements by Bureau of Entomology & Plant Quarantine on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT - NO. 8

Date - 7 Mar 45.
Test No. - 8
Tank used - British S. C. I.(Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 Ft.
Airspeed - 200 MPH
Airplane - A-26 B
Time of Flight - 1440
Mixture -10% (w/v) DDT. 24 gals No. 2 Diesel Fuel Oil. 6 gals Barrett's Heavy Solvent. Du Pont's oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 10 MPH



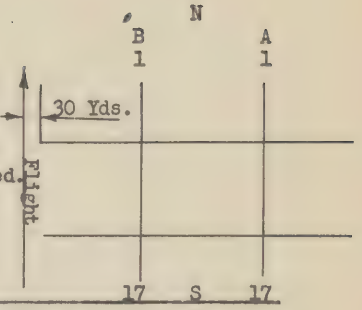
Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Flies in cages: No. sq. in.	Line A: Particle Data 4/ Med. Diam (mic)	Line A: Per cent of total spray by wt. in drops below 100 mic.	Line A: 200 mic.	Line A: 400 mic.	Line A: 800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in cages: No. sq. in.	Line B: Flies in cages: % Kill 2/	Line B: Particle Data: No. per sq. in.	Line B: Med. Diam. (mic)	Line B: Percent of total spray by wt. in drops below 100 mic.	Line B: 200 mic.	Line B: 400 mic.	Line B: 800 mic.
1	5		240+	0						10		240+	100	0						
3	0		240+	0						10		240+	25	0						
5	10		240+	0						5		240+	58.8	0						
7	5		240+	0				100		5		240+	4.4	0						
9	15		240+	1				100		15		240+	50	0						
11	20	113	189	3	110	5.4	15.9	100		30		240+	0	1				100		
13	25	87	129	0						60		240+	76.7	1					100	
15	25	77	177	3	220	1.5	20.1	100		65	79	169	50	2					100	
17	55	17	26	35	330	1.0	9.0	51.2	100	100	15	47	0	13	110	24.9	100			

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT - NO. 9

Date - 7 March 1945.
Test No. - 9
Tank used - British S. C. I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 ft.
Airspeed - 200 MPH
Airplane - A-26B.
Time of Flight - 1511
Mixture - 10% (w/v) DDT. 24 gals. No. 2 diesel fuel oil. 6 gals. Barrett's heavy solvent. DuPont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 10 MPH.



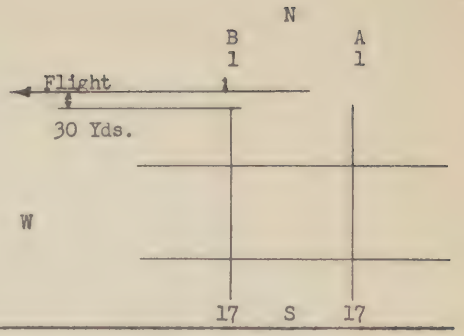
Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data 4/ Med. Diam by wt. (mic)	Line A: Particle Data 4/ Per cent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in cages 2/ % Kill	Line B: Particle Data No. per sq. in.	Line B: Particle Data Med. Diam. by wt. (mic)	Line B: Particle Data Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.
1	45		240	2	198	.3	13.3	100		5		240	76.3	1			100		
3	80	37	71	8	154	17.5	100			5		240	31.8	1				100	
5	65	74	100	11	132	1.0	100			0		240	47.8	1			100		
7	20	75	78	2	110	7.4	100			15		240	51.5	1				100	
9	55	17	30	16	220	2.5	20.3	100		0	27	61	100	3	330	.3	20.7	100	
11	100	14	28	29	264	1.7	34.2	100		55	22	33	96.8	7	308		12.5	100	
13	95	16	20	29	286	1.3	18.9	100		35	12	121	61.4	2	154	2.9	38.6	100	
15	65	34	47	13	374	.4	3.1	66	100	50	25	39	83.3	1					100
17	90	23	41	19	220		28.5	100		5	12	20	92.3	1				100	

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT - NO. 10

Date - 1 Mar 45.
Test No. - 10
Tank used - British S. C. I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 50 ft.
Airspeed - 200 MPH
Airplane - A-26B
Time of Flight - 1405
Mixture - 5% (w/v) DDT in No. 2 Diesel Fuel oil with Du Pont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 2 MPH



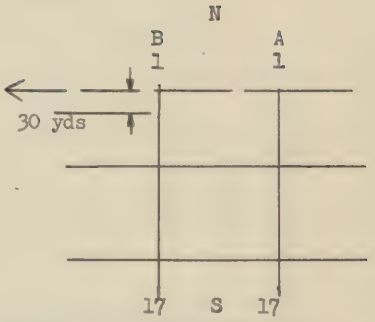
Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data 4/ Med. Diam (mic)	Line A: Particle Data 4/ Per cent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in Cages: % Kill 2/	Line B: Particle Data 4/ No. per sq. in.	Line B: Particle Data 4/ Med. Diam. (mic)	Line B: Particle Data 4/ Per cent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.
1	65	113	240+	1					1	95	49	55	100	1					
3	95	74	102	2					3	45	44	53	25	1					
5	5		240+	1					5	0		240+	50	0					
7	10		240+	1					7	5		240+	45.5	0					
9	30	210	240+	2					9	25		240+	27.3	1					
11	20		240+	1					11	10		240+	28.6	1					
13	20		240+	1					13	45		240+	8.3	1					
15	25	210	240+	0					15	10		240+	25	1					
17	5	225	240+	0					17	20		240+	0	1					

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT - NO. 11

Date - 1 March 1945.
Test No. - 11
Tank used - British S. C. I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 50 ft.
Airspeed - 200 MPH
Airplane - A-26B
Time of Flight - 1455
Mixture - 5% (w/v) DDT in No. 2 diesel fuel oil with duPont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 6 MPH.



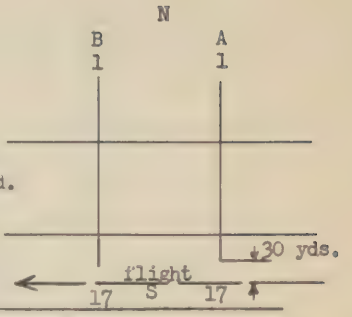
Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data Med. Diam by wt. (mic)	Line A: Per cent of total spray by wt. in drops below 100 mic.	Line A: 200 mic.	Line A: 400 mic.	Line A: 800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in Cages % Kill 2/	Line B: Particle Data No. per sq. in.	Line B: Particle Data Med. Diam. by wt. (mic)	Line B: Percent of total spray by wt. in drops below 100 mic.	Line B: 200 mic.	Line B: 400 mic.	Line B: 800 mic.
1	95	5	9	223	198	5.6	48.6	100		100	21	28	49.1	90	132	20.7	100		
3	85	14	20	70	132	7.6	100			100	69	110	21.9	19	88	58.6	100		
5	95		240	1						10		240	27.3	12	110	56.9	100		
7	65		240	18	132	15.2	100			90	80	240	39.5	12	110	47.9	100		
9	25		240	7	66	100				60		240	14.7	2					
11	15		240	2						15		240	80	1					
13	15		240	3						25		240	33						
15			240	1						5		240		1					
17	15		240							10		240							

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT - NO. 12.

Date - 3 March 1945.
Test No. - 12
Tank used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 50 ft.
Airspeed - 200 MPH
Airplane - A-263
Time of Flight - 1343.
Mixture - 10% (w/v) DDT. 24 gals No. 2 diesel fuel oil. 6 gals. Barrett's Heavy Solvent. duPont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity - 11 MPH.



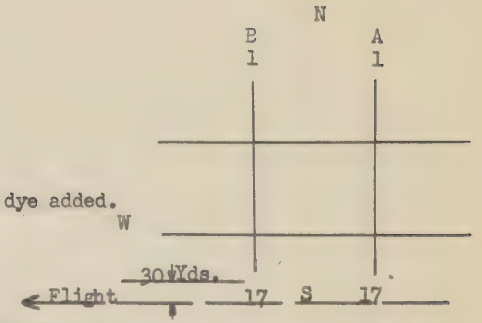
Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data 4/ Med. Diam by wt. (mic)	Line A: Percent of total spray by wt. in drops below 100 mic.	Line A: Percent of total spray by wt. in drops below 200 mic.	Line A: Percent of total spray by wt. in drops below 400 mic.	Line A: Percent of total spray by wt. in drops below 800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in Cages % Kill 2/	Line B: Particle Data No. per sq. in	Line B: Particle Data Med. Diam. by wt. (mic)	Line B: Percent of total spray by wt. in drops below 100 mic.	Line B: Percent of total spray by wt. in drops below 200 mic.	Line B: Percent of total spray by wt. in drops below 400 mic.	Line B: Percent of total spray by wt. in drops below 800 mic.
1	100	43	96	6	176	6.9	46.1	100		15		240	13.5	1				100	
3	95	45	58	7	154	11.1	100			15		240	2.2	1-2			100		
5	100	32	45	6	242	20.3	20.3	100		20		240							
7	80	34	47	11	220	.64	22.6	100		16		240	37.3	9	198	3.7	59.2	100	
9	80	44	54	15	220	1.4	20.5	100		35		240	21.8	7	88	46.1	100		
11	75	41	49	5	220	16.6	16.6	100		40	42	108	59.4	16	176	1.2	44.1	100	
13	100	32	36	15	264	.49	17.6	100		90	16	22	100	20	242	1.8	16.1	100	
15	100	15	19	29	176	.69	52.7	100		100	14	23	100	25	286	.2	3.0	68.5	100
17	95	32	44	1				100		100	12	26	100	147	352	.4	2.8	66.3	100

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

RESTRICTED

THIRD EVENT - NO. 13.

Date - 3 March 1945
Test No. - 13
Tank used - British S. C. I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 50 ft.
Airspeed - 200 MPH
Airplane - A-26B
Time of Flight - 1413
Mixture - 10% DDT, 24 gals. No. 2 Diesel Fuel Oil. 6 gals. Barrett's Heavy Solvent. duPont oil red dye added.
Quantity in Tank - 30 American gallons.
Line Data - Lines A and B 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind Velocity -



Station	Line A: Mosquito Larvae 1/ (%) Kill	Line A: Flies in dishes 3/ 50% down (min)	Line A: Flies in dishes 3/ 100% down (min)	Line A: Particle Data 4/ No. per sq. in.	Line A: Particle Data 4/ Med. Diam by wt. (mic)	Line A: Particle Data 4/ Per cent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.	Line B: Mosquito Larvae 1/ (%) Kill	Line B: Flies in dishes 3/ 50% down (min)	Line B: Flies in dishes 3/ 100% down (min)	Line B: Flies in Cages % Kill 2/	Line B: Particle Data No. per sq. in	Line B: Particle Data Med. Diam. by wt. (mic)	Line B: Percent of total spray by wt. in drops below 100 mic.	200 mic.	400 mic.	800 mic.
1	40		240+	0					80	51	100	87.5	2			100			
3	15		240+	2				100	50	28	42	81.4	18	132	25.8	100			
5	15		240+	13	154	7.3	100		90	21	26	58.8	41	286	2.1	13.4	100		
7	60	27	64	12	264	1.5	3.1	100	100	17	25	100	41	220	3.8	40.2	100		
9	95	25	31	10	220	1.96	9.3	100	100	12	24	100	40	220	.46	43	100		
11	100	12	16	47	374	.6	11.3	45.4	100	70	12	18	100	86	198	3.4	51.9	100	
13	95	14	15	58	220	.84	29.3	100		100	10	20	100	44	132	13	30.7	100	
15	100	8	12	53	308	.43	8.9	91.5	100	100	6	14	100	74	264	.3	16.3	100	
17	100	8	11	82	286	.6	8.5	100		100	7	10	100	81	352	.39	5.2	83.5	100

1/ Percent mortality in 24 hours of Anopheles quadrimaculatus larvae. No mortality in untreated checks.
2/ Percent mortality in 24 hours of houseflies in cages. No mortality in untreated checks.
3/ Time in minutes for 50% and 100% knockdown of houseflies placed in exposed Petri dishes. No knockdown in untreated checks.
4/ Counts made on magnesium oxide coated slides.

THIRD EVENT - NO 1

Date - 12 January 1945.
Test No. - 1.
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 300 feet.
Airspeed - 200 MPH.
Airplane - A-20G.
Time of Flight - 1550 hours.
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 483.7 mg/100 ml.
DDT = 5% (26 lbs. corrected to 25 lbs.)
Made to 55 gallons with #2 diesel Fuel Oil.
Dye to DDT ratio - 1 = 11.27.
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind velocity - 5 MPH at 2 meters.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter.	Station	Mg DDT Per Square Meter
1	1.1	1	3.5
3	4.2	3	8.5
5	3.5	5	9.3
7	3.0	7	4.8
9	1.5	9	3.3
11	2.0	11	3.4
13	Lost	13	0
15	0.4	15	0
17	0	17	0

THIRD EVENT - NO 2.

Date - 1 March 1945.
Test No. - 2
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 300 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight -
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 4 Pounds.
DDT = 52 Pounds.
Mixed to 120 gallons of No. 2 diesel fuel oil.
Dye to DDT ratio -
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 2 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter	Station	Mg DDT Per Square Meter
1	11.1	1	.7
3	1.5	3	1.0
5	1.3	5	.5
7	.8	7	.2
9	.5	9	.2
11	1.2	11	.2
13	.2	13	.4
15	.3	15	.2
17	0	17	0

THIRD EVENT - NO 3

Date - 7 March 1945.
Test No. - 3
Tank Used - British S.U.I. (Smoke Curtain Installation) 500 lb. [illegible]
Altitude - 300 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1535
Object - To determine density of DDT contamination, using [illegible] oil re-
dye #5076 as a tracer.
Spray Mixture - Dye = 6 Pounds.
DDT = 150 pounds.
Mixed to 144 gals. #2 diesel fuel oil and 36 gals
Barrett's heavy solvent.
Dye to DDT ratio -
Line Data - Lines A and [illegible] - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 5 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter.	Station	Mg DDT Per Square Meter
WA 1	10.3	WB 1	.7
3	3	3	.9
5	2.1	5	2.1
7	4	7	4
9	1.9	9	5.6
11	2.3	11	9.9
13	26.1	13	6.6
15	24.9	15	4.7
17	83.8	17	1.2

THIRD EVENT - NO 4

Date - 7 March 1945.
Test No. - 4
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 300 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1600
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 6 Pounds.
DDT = 150 pounds. Mixed to 144 gals. No. 2 diesel fuel oil and 26 gals. Barrett's heavy solvent.
Dye to DDT ratio -
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 8 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter.	Station	Mg DDT Per Square Meter
1	1.4	1	4.4
3	5.5	3	4.
5	7.7	5	5.5
7	10.6	7	5.5
9	12.2	9	6.2
11	21.4	11	19.7
13	19.5	13	23.5
15	56.9	15	38.1
17	32.9	17	16.

THIRD EVENT - NO 5

Date - 12 January 1945.
Test No. - 5
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 feet.
Airspeed - 200 MPH.
Airplane - A-20G.
Time of Flight - 1612 hours.
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 561.5 mg/100 ml.
DDT = 5% (26 lbs. corrected to 25 lbs.)
Made to 55 gallons with #2 diesel fuel oil.
Dye to DDT ratio - 1:9.62.
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart (See drawing).
Wind velocity - 8 MPH at 2 meters.

RESULTS IN Mg PER SQUARE METER

Line A.		Line B.	
Station	Mg DDT Per Square Meter	Station	Mg DDT Per Square Meter
1	0.3	1	4.8
3	0.4	3	5.5
5	4.0	5	5.7
7	2.0	7	6.2
9	8.3	9	11.6
11	3.6	11	14.2
13	0	13	4.7
15	0	15	0
17	0	17	0

THIRD EVENT - NO 6

Date - 1 March 1945.
Test No. - 6
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1523.
Objective - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye - 4 pounds.
DDT = 52 pounds.
Mixed to 120 gals. No. 2 Diesel fuel oil.
Dye to DDT ratio -
Line Data - Lines A And B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 4 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter	Station	Mg DDT Per Square Meter
1	31.2	1	43.1
3	36.9	3	13.1
5	9.6	5	3.9
7	3.8	7	3.2
9	1.9	9	0.4
11	.4	11	1.1
13	2.	13	.9
15	1.	15	.7
17	1.	17	1.7

THIRD TEST - No. 7

Date - 29 January 1[illegible]
Test No. - 7
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 Feet.
Airspeed - 200 MPH.
Airplane - [illegible]
Time of Fill-Up - [illegible] hours.
Object - To determine density of DDT contamination, using [illegible] dye #5076 as a tracer.
Dye Mixture - Dye = 645 mg/100 ml.
DDT = 10% (25 lbs.)
Made to 30 gallons with #2 diesel fuel oil
Dye to DDT ratio - 1 = 15.5
Line Data - Lines A and B - 200 yards apart. (See drawing).
Tire Weight - [illegible] PSI at [illegible] pounds.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter	Station	Mg DDT Per Square Meter
[illegible]	91.0	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	7.7	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	13.7
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	13	[illegible]
[illegible]	[illegible]	14	[illegible]
[illegible]	[illegible]	15	[illegible]
[illegible]	[illegible]	17	[illegible]

THIRD EVENT - NO 8

Date - 7 March 1945.
Test No. - 8
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1440
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 6 pounds.
DDT = 150 pounds. Mixed to 144 gals. No. 2 diesel fuel oil, and 36 gals. Barrett's heavy solvent.
Dye to DDT ratio -
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 10 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter.	Station	Mg DDT Per Square Meter
1	1.9	1	0.5
3	2.3	3	0.7
5	0.5	5	0.5
7	0.7	7	0.9
9	1.6	9	0.2
11	3.3	11	0.7
13	1.2	13	1.2
15	1.6	15	1.6
17	6.8	17	2.1

THIRD EVENT - NO 9

Date - 7 March 1945.
Test No. - 9
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 150 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1511
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 6 Pounds.
DDT = 150 pounds. Mixed to 144 gals. No. 2 diesel fuel oil, and 36 gals. Barrett's heavy solvent.
Dye to DDT ratio -
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 10 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg.DDT Per Sq. Meter	Station	Mg DDT Per Square Meter
1	4.0	1	1.2
3	2.3	3	1.2
5	1.4	5	1.9
7	0.9	7	1.4
9	3.0	9	0.7
11	7.0	11	1.6
13	5.6	13	0.5
15	6.1	15	2.6
17	4.9	17	0.7

THIRD EVENT - NO 10

Date - 1 March 1945.
Test No. - 10
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 50 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1405.
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 4 pounds.
DDT = 52 pounds.
Mixed to 120 gals. #2 diesel fuel oil.
Dye to DDT ratio -
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 2 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter.	Station	Mg DDT Per Square Meter
1	1.0	1	1.0
3	0.8	3	1.1
5	0.8	5	0
7	0.5	7	0.2
9	0.4	9	0.2
11	0.2	11	0.3
13	0	13	0.3
15	0	15	0.3
17	0	17	0.2

THIRD EVENT - NO 11

Date - 1 March 1945.
Test No. - 11.
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 50 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1455
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 4 pounds.
DDT = 52 pounds. Mixed to 120 gals. #2 diesel fuel oil
Dye to DDT ratio -
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 6 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter	Station	Mg DDT Per Square Meter
1	21.3	1	3.5
3	5.	3	1.1
5	0.9	5	1.0
7	1.0	7	0.4
9	0.5	9	0.5
11	0.3	11	0.3
13	1.3	13	0.4
15	0.5	15	0.3
17	0	17	0.3

THIRD EVENT - NO 12.

Date - 3 March 1945.
Test No. - 12
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 50 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1455.
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 6 pounds.
DDT = 150 pounds. Mixed to 144 gals. #2 diesel fuel oil, and 36 gals. Barrett's heavy solvent.
Dye to DDT ratio -
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 11 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter	Station	Mg DDT Per Square Meter
1	3.5	1	1.6
3	2.1	3	1.9
5	0.2	5	1.2
7	2.1	7	1.4
9	1.4	9	1.4
11	2.1	11	1.9
13	3.3	13	5.5
15	3.5	15	11.1
17	1.6	17	37.8

THIRD EVENT - No 13.

Date - 3 March 1945.
Test No. - 13.
Tank Used - British S.C.I. (Smoke Curtain Installation) 500 lb. tank.
Altitude - 50 feet.
Airspeed - 200 MPH.
Airplane - A-26B
Time of Flight - 1413.
Object - To determine density of DDT contamination, using du Pont oil red dye #5076 as a tracer.
Spray Mixture - Dye = 6 pounds.
DDT = 150 pounds. Mixed to 144 gals. #2 diesel fuel oil, and 36 gals. Barrett's heavy solvent.
Dye to DDT ratio -
Line Data - Lines A and B - 200 yards apart. (See drawing).
Odd numbered stations - 50 yards apart. (See drawing).
Wind Velocity - 6 MPH.

RESULTS IN Mg PER SQUARE METER

Line A		Line B	
Station	Mg. DDT Per Sq. Meter	Station	Mg DDT Per Square Meter
1	3.5	1	2.3
3	0	3	3.0
5	2.8	5	3.5
7	3.7	7	5.2
9	0.7	9	4.2
11	16.7	11	16.2
13	13.9	13	17.9
15	31.	15	21.4
17	76.	17	61.4

THE ARMY AIR FORCES BOARD
Orlando, Florida

26 April 1945

PROJECT DISTRIBUTION LIST

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DISSEMINATION OF DDT FROM STANDARD BRITISH EQUIPMENT

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Field Testing Agency Concerned	1
Surgeon General, Washington, D. C.	5
Members of AAF Board (3)	1
Central Library AAFSAT	1
CG, AAFPGC (Proof Dept.)	1
Director ATSC Area-A	2
Director ATSC Area-B	6
RAF	20
Hq., AAF Library	2
AAF Board Liaison Officers (4)	5
AAF Board Liaison Officer ETO	8
Air Surgeon, Hqs., AAFTAC	2
Bureau of Entomology & Plant Quarantine, Orlando	2